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YRTP-YRT *QUICK START* DRAFT SERVICE PLAN STATUS REPORT

The Rapid Transit Public/Private Partnership Steering Committee referred the following report, June 17, 2004, from the Vice President of the York Region Rapid Transit Corporation and the Commissioner of Transportation and Works to Regional Council for consideration at its meeting on June 24, 2004:

1. RECOMMENDATIONS

It is recommended that:

1. Council endorse the principles articulated in this report.
2. This report be forwarded to municipalities for initial staff comment on the work done so far.
3. Staff report back in the fall of 2004 with a complete Service Plan and financial implications.

2. PURPOSE

The purpose of this report is to seek endorsement of the principles for detailed service planning work and to update the Committee on the progress to date, and to provide an opportunity for Council, municipal and stakeholder input prior to finalizing the work for the fall of 2005.

3. BACKGROUND

The detailed service planning has been ongoing in close consultation with YRT staff. This work involves the development of a detailed service design, both for the *Quick Start* BRT services and the YRT local bus routes that either parallel or feed the BRT services.

The Service Plan development is still in progress and the specifics included in this report are still in draft form and some may be modified as the Service Plan is finalized. The proposed design of the *Quick Start* service is fully developed in this report, as are the principles for overall service design, but the detailed proposals for restructuring YRT local services to support BRT are still under development with YRT. The draft Service Plan report, as it now stands, is attached to this status report (*see Attachment 1*).

A complete draft Service Plan, including specific changes for YRT local services, will be brought to the Committee in September. Full municipal review and public consultation is also planned to take place in early fall before the Service Plan is finalized. Also, subject to Committee and Council approval, the service design for *Quick Start*, as described in

this report, along with the design work now in progress for YRT services will be used to develop budgets for *Quick Start* and YRT local services over the summer.

4. ANALYSIS AND OPTIONS

4.1 Service Objectives and Principles

The overall service objective of the *Quick Start* program is to introduce an initial phase of rapid transit in all four corridors of the overall YRTP program, and be the Regional “backbone” transportation corridors with sufficient densities and appropriate land use to support rapid transit.

4.1.1 Service Design Principles – BRT Services

The *Quick Start* phase of the YRTP program will be “bus-rapid-transit” (BRT) with limited stops (typically 1 km. spacing), but with buses operating in mixed traffic with traffic signal priority and right-turn-lane “queue jumpers”. Other features will include off-board fare payment and advance-design vehicles with wide doors and aisles, all of which will facilitate quick boardings and alightings with very short stop times.

The service design will include high frequency services so that passengers have a high comfort level with the service and can arrive at stations without having to consult timetables or risk long waiting times. High service levels are particularly important during peak periods, but should also be in place at other times, including mid-day periods, evenings, and weekends.

4.1.2 Service Design Principles – YRT Routes on Rapid Transit Corridors

Since the BRT services will be making limited stops, they will be complemented by local YRT services running in parallel on the BRT corridors and making all local stops (including the northern part of Yonge, between Bernard and Newmarket). Also, the Service Plan assumes that the GO Transit Yonge “B” route will continue to operate, although it is recognized that its operation and service levels may be modified by GO to reflect the overall transit needs on the Yonge corridor.

The parallel local routes are intended to operate during the full spans of service normally used for core services, but with more modest frequencies similar to local services because of the BRT providing the primary service. The local routes in the BRT corridors are proposed to operate at least every 30 minutes (60 minutes late evenings and Sundays), although higher frequencies will likely be needed on the busier, well established corridors, especially the southern part of Yonge.

4.1.3 Service Design Principles – YRT Feeder Routes

The routings of many YRT services are also proposed to be modified where appropriate to effectively provide a feeder service between the BRT stations and the adjacent residential and employment areas, while also meeting other local needs. For the feeder services to be effective, the following service design principles are proposed:

- Ensure all built up urban parts of the Region that can support transit service are within 500 meters of a direct bus connection to a BRT stop (note that, in general, most of the built-up areas in the five urban municipalities of York Region are within 4 kilometres of one of the BRT corridors).
- Generally orient local bus routings that are intended to connect with BRT to be geographically perpendicular to the BRT corridors, that is, an east-west orientation along the Yonge corridor and a north-south orientation along the Highway 7 corridor.
- Provide a series of “core” services that generally follow the major arterials, typically, the 2-kilometre arterial street grid, and BRT with more intensive land uses that are likely to be more oriented to transit (commercial, institutional, higher-density residential and specific transit-oriented streets in newer higher-density developments); such core services would have higher levels of service, consistent with the YRT “core” service standards.
- Complement the core services with “local” routes that would penetrate other, less intensive residential and employment areas, such that all built-up areas that can support transit are within 500 metres of a direct bus connection to a BRT stop; such local routes would typically have lower levels of service than core routes and would follow the YRT “local” service standards, although service levels could increase where warranted by ridership demand.
- For those areas close to a major destination point (e.g. Finch Station, York University), maintain the direct local transit connection in order to avoid forcing a transfer, as long as the service meets the required ridership performance and can support the minimum service standards.

4.2 YRTP Service Design Specifications

4.2.1 Routings

The routings for the *Quick Start* services will generally follow the four YRTP corridors. To better serve the high demand areas in the south-central part of the Region, however, there will actually be 6 distinct *Quick Start* routes during Monday to Friday peak periods, several of which will overlap with other routes on the busier parts of the corridors to provide both greater routing options and a higher level of service frequency. The 6 peak-period routes are shown in Exhibit 1 (*see Attachment 2*).

During peak periods, several portions of the *Quick Start* network will have two routes operating on the same routing. This results in a higher level of service on these built-up portions of the corridors and provides a direct no-transfer service, typically, to two distinct destinations. The areas where this occurs are:

- Yonge corridor between Finch and Bernard;

- Highway 7 corridor between Martin Grove and York University – provides service to both Downsview Station (Vaughan North-South Connector) and the full Highway 7 corridor (Highway 7 route);
- Highway 7 corridor between Cornell and Warden – provides service to both Don Mills Station (Markham North-South Connector) and the full Highway 7 corridor (Highway 7 route);
- Highway 7 corridor between Unionville GO Station and Yonge – provides service in the Highway 7 and 404 employment areas to both Finch Station (Yonge-Markham) and the Highway 7 corridor west of Yonge (Highway 7 route).

In all these cases, schedules would be meshed to provide a more frequent service overall (e.g. two 10-minute services combined for an overall 5-minute service).

4.2.1.2 Off-Peak Route Streamlining

Because of the relatively low demand expected outside of peak periods, it is proposed that the off-peak routings be adjusted to eliminate the areas where the peak routes overlap. This will result in significant economies by eliminating duplication of routes and better tailoring service to expected demand, while still retaining the minimum 15-minute service level throughout the network. The areas where these route modifications would take place are as follows:

- Truncating the west end of the Highway 7 route at York University;
- Truncating the Markham North-South service at Unionville GO Station;
- Not operating the Yonge-Markham route outside of peak-periods;
- Not operating the Yonge-Bernard short-turn, as all Yonge trips would go to Newmarket.

This off-peak design would result in a full 15-minute service on all routes without overlap, with timed connections at the truncation points (York University and Unionville) as well as at Langstaff. The off-peak network is shown in Exhibit 2 (*see Attachment 3*).

4.2.2 Stopping Policy

For *Quick Start*, all routes would stop at all YRTP stops (i.e. no “express” routes or route portions). This is to ensure reasonably frequent service throughout the network. The stop spacing will be that of a “rapid transit” service, typically about 1 km between stops (or more in relatively undeveloped areas). In Toronto, drop-off’s only would be made in the southbound direction and pick-ups only in the northbound direction.

4.2.3 Hours (Span) of Service

The span of service for all *Quick Start* services is planned to be about 20 hours, or from about 5:00 a.m. to about 1:00 a.m. The start times on Saturdays may be slightly later and on Sundays will be later still (e.g. 8:00) or early Sunday morning service may be less frequent, similar to late evening service. This span of service will apply to all services in order to ensure transfer opportunities at all times and to make the service consistent and understandable for passengers. *Quick Start* services will match existing YRT services in the corridor.

4.2.4 Vehicle Allocation

Because of the high demand forecast for the Yonge corridor and the two Yonge routes in particular, as described in the next section, the Yonge-Newmarket and Yonge-Bernard routes will be operated with 18-metre articulated buses.

Because of the relatively lower demand on the other lines and the need to provide frequencies high enough to make the service attractive (allow random passenger arrivals at stations with minimal waiting time), the other *Quick Start* routes will be operated with 12-metre standard length buses.

4.2.5 Service Frequencies – Peak Periods

Based on the overall service objectives and principles noted earlier and the 2006 ridership forecasts, the minimum service frequencies proposed for the *Quick Start* program are shown in Table 1, along with the projected peak-point, peak-direction average passenger loads per vehicle. As noted above, these frequencies assume that 18-metre articulated vehicles would be used on the Yonge line (both to Bernard and to Newmarket) and 12-metre standard vehicles would be used on the other lines.

Table 1
Proposed Rapid Transit Peak-Period Frequencies

Route	Routing	Frequency	Peak Load
Yonge-Newmarket	Finch Terminal to Newmarket Terminal	10 minutes	71 (combined)
Yonge-Bernard	Finch Terminal to Bernard Terminal	10 minutes	
Yonge-Markham	Finch Terminal to Unionville GO Station	10 minutes	50
Highway 7	Martin Grove to Markham-Stouffville Hospital	10 minutes	45
Markham N-S	Don Mills Station to Markham-Stouffville Hospital	10 minutes	45
Vaughan N-S	Downsview Station to Highway 7 & Martin Grove	10 minutes	47

In the Yonge Street corridor, the Yonge-Newmarket and Yonge-Bernard schedules will combine to provide a 5-minute peak service between Finch and Bernard. Between Finch and Langstaff, the two Yonge services and the Yonge-Markham route will further combine for an overall frequency of about 3 to 4 minutes. Similarly, the schedules for the Vaughan North-South Link, Markham North-South Link and Yonge-Richmond Hill-Markham services will coordinate with the Highway 7 service to provide a combined 5-minute peak service on the overlapping portions of these routes.

In all corridors, the *Quick Start* routes will be complemented by local YRT routes. The above service levels also assume the continuation of the GO Yonge “B” route, although the nature of the service and/or its service levels will likely be modified by GO Transit.

4.2.6 Service Frequencies – Off-peak Periods

The off-peak service design is also intended to place a high emphasis on frequency of service, again to operate like true “rapid transit” and maximize passenger confidence of not having to plan trips or risk long waiting times. To achieve this, the off-peak service will be set by policy rather than tied to forecast demand. This means that ridership levels

will typically be below capacity but should build as more new riders respond to the high quality of service. The proposed off-peak service levels are shown in Table 2.

Table 2
Proposed Rapid Transit Off-Peak Frequencies

Route	Routing	Frequency
Yonge-Newmarket	Finch Terminal to Newmarket Terminal	15 minutes
Highway 7	York University to Markham-Stouffville Hospital	15 minutes
Markham North-South	Don Mills Station to Unionville GO Station	15 minutes
Vaughan North-South	Downsview Station to Highway 7 & Martin Grove	15 minutes

As it is for the peak design, the off-peak services on Yonge will be operated with 18-m articulated buses, while all other services will be operated with 12-m conventional buses.

The only exceptions to the 15-minute service would be during late evenings (after about 11:00) and very early mornings on weekends, where the frequency could transition to as much as a 30-minute service at the latest or earliest times on all corridors.

4.3 YRT Service Changes Related to *Quick Start*

With the introduction of Bus-Rapid-Transit on the major York Region transit corridors, the YRT local routes will need to play the most important role of effectively feeding the BRT services, as well as continuing to meet other local service demands.

To achieve this, various changes will need to be made to YRT routes, both to reflect the addition of the *Quick Start* services to the major corridors and to provide effective local feeder service to the BRT routes. These changes are currently under development and under discussion with YRT. None have yet been finalized with YRT.

4.3.1 YRT Routes Paralleling YRTP Routes

The YRT routes proposed to operate in parallel to the *Quick Start* routes are intended to be the current YRT Routes 1, 77 and 99. Also, the GO Transit Yonge “B” service currently provides local service between Newmarket and Bernard, although this is currently under review by GO Transit.

The only major routing change proposed for the YRT parallel routes on the YRTP corridors is the extension of Route 99 to Newmarket to provide a continuous, fully integrated local service along the entire Yonge corridor to properly complement the BRT service. Minor changes are also being considered for Route 1 on Highway 7, especially keeping all trips on Highway 7 to Yonge and eliminating the Route 1-Bayview routing, which provides better connections with the strategically important Langstaff focal point.

4.3.1.2 Service Level Changes

The following are proposed service levels for the YRT routes operating on the *Quick Start* BRT corridors:

Table 3
YRT Local Routes on Rapid Transit Corridors – Proposed Frequencies

Route	Peak Periods		Daytime (Mon-Sat)		Sundays / Late Eve.	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
99 – Newmarket	7-10	30	30	30	60	60
99 – Bernard	3-5	10	15	30	30	30
1 – Hwy 7 East	10-15	30	30	30	60	60
77 - Hwy 7 West	15	15	30	30	60	60

The service to Bernard includes Newmarket trips and, where applicable (in peak periods, Sundays and late evenings), trips that go only to Bernard. At other times, all trips would go to Newmarket. The proposed frequencies for the parallel routes generally follow the minimum service standards, but some exceed the standards, especially Route 99 (Yonge) that has a very frequent peak service now (4-5 minutes) and Route 77 that needs higher service in Thornhill and to connect to Brampton.

4.3.2 YRT Routes – Routing Changes

In general, the YRT route structure follows a grid pattern, where “core” services are provided on the major arterials of the 2-kilometre street grid. In the areas adjacent to the BRT corridors, reasonably good services are provided on most of these arterials, with east-west routes crossing the Yonge corridor and north-south routes crossing the Highway 7 corridor. Most improvements needed for the core arterial services relate to service levels. There are some routing issues, however, including the need to provide core services on major transit-oriented streets in new developments (e.g. Bur Oak).

Services between the major arterials are considered “local” services and penetrate the residential and employment areas within the 2-kilometre sections, typically on collector streets. Their routing alignments vary and often do not provide direct connections to the BRT corridors. The routing changes proposed for local services are intended primarily to re-align routings to more directly feed the BRT corridors, that is, east-west routings along the Yonge corridor and north-south routings along the Highway 7 corridor. The service levels for these routes follow the less frequent “local” service standards and, thus, many may also need improvement to provide adequate feeder service.

These changes are currently under development and discussion with YRT and will be fully described in the final draft Service Plan document.

4.3.3 YRT Routes – Service Level Changes

Service levels on the major arterials generally follow the higher-quality “core” service standards and, thus, are of a good quality, although there are exceptions. Improvements proposed for the core arterial services are primarily increased frequency where service levels fall short of the core standards, especially off-peak service and, in some cases, on certain days and time periods where no service exists at all, typically on weekends and evenings.

Local (non-core) services follow the less frequent “local” service standards but many still fall short of even the local standards and will need improvement to provide adequate feeder service and bring the most notable service deficiencies up to or close to the service standards.

These changes are also currently under development and discussion with YRT and will be fully described in the final draft Service Plan document.

4.4 Next Steps

The more detailed route and service frequency planning is continuing in close consultation with YRT. A full draft Service Plan will be presented by the end of June for the 2005 budget process.

The proposed service changes will be presented in a series of public consultations, scheduled for Fall 2004 in conjunction with other public consultation activities related to the *Quick Start* program. Input from the public will be used to fine-tune the Service Plan.

A major component of the detailed service planning is the calculation of operating costs associated with the service design. These will be determined and used to develop the 2005 operating budget for YRTP and YRT in keeping with the Region’s budget development timetable.

5. FINANCIAL IMPLICATIONS

The Service Plan will directly affect the 2005 and 2006 (full year) operating budgets, both for YRTP and YRT. The results will be integrated into the Region’s budgeting process.

6. LOCAL MUNICIPAL IMPACT

Local municipal input will be gained through the public consultation process, including presentations to Councils and municipal reviews of the full draft Service Plan.

7. CONCLUSION

The service planning work for the introduction of *Quick Start* is progressing well. The service design for the *Quick Start* BRT services will ensure a high level of service that is necessary to attract significant new ridership and meet the YRTP performance targets.

The service planning being undertaken jointly by YRTP and YRT for both the parallel and feeder YRT services will result in a highly-effective, fully-integrated transit network and will ensure that the benefits of BRT are extended to all parts of the Region.

(A copy of the attachments referred to in the foregoing has been forwarded to each Member of Council with the June 17, 2004 Rapid Transit Public/Private Partnership Steering Committee agenda and a copy thereof is on file in the Regional Clerk's Office.)