



To: Public Works and Transportation Committee **Date:** June 3, 2003
From: Gordon Chan, P. Eng. **File:** 6480-01
Director, Transportation
Re: **TRANSLINK TRANSIT SERVICE DESIGN GUIDELINES**

Staff Recommendation

1. That TransLink's proposed Transit Service Design Guidelines, as described in the attached report, to develop a more efficient, frequent, reliable and convenient transit system that encourages increased use of transit and the sustainable development of the region, be endorsed.

2. That staff incorporate the Guidelines into City planning decisions regarding land use, transportation, development application reviews, infrastructure, sustainability, and community liveability.

Gordon Chan, P. Eng.
Director, Transportation
(local 4021)

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Staff Report

Origin

The existing Transit Service Design Guidelines for the TransLink transit system were developed in 1983 with minor revisions introduced in 1991. Since that time, there have been significant changes to the transit system in the GVRD such as the introduction of low-floor and articulated buses, the extension of the SkyTrain system, the introduction of new rail (West Coast Express) and bus (B-Line, regional express and community shuttle) services, and increased traffic congestion that has resulted in bus service reliability issues.

As a result, the current Transit Service Design Guidelines are either outdated in terms of vehicle and service types or non-existent for some services (e.g., alternative transit) and for attributes that are important to customers and relevant to designing services such as service reliability and service directness. Moreover, the current performance measures are defined in terms of indicators that are not regularly monitored at present, which has limited the ability of TransLink to apply the Guidelines in making service change decisions.

Over the past two years, TransLink staff, in consultation with municipal staff and other stakeholders from across the region, have developed new and updated Transit Service Design Guidelines that reflect the current and forecast operating environment for the region's transit system. The Guidelines will be presented for TransLink Board approval at its July 2003 meeting. This report summarizes the Guidelines and their potential incorporation in the City's various planning decisions.

Analysis

1. Purpose of the Transit Service Design Guidelines

The Transit Service Design Guidelines provide an objective rationale for the allocation of transit resources and are a tool that can be used to implement the broader policy objectives of the Strategic Transportation Plan (STP). The Guidelines provide the framework for decisions on the provision of transit services, the design of routes and schedules and the evaluation of services.

Some of the new service standards were first used in the development of the 2002 Program Plan while others will be phased in over the next several years as more supporting data becomes available. Full implementation of the Guidelines may also require implementation of new technology such as Automatic Passenger Counters (APC) and Automatic Vehicle Location (AVL) systems.

The proposed Guidelines will fulfil several important functions:

- *Service Development* – the Guidelines form a consistent basis for service planning and, particularly, establishing minimum levels of service. Flexibility remains but the guidelines assist in the development of new services and the refinement of existing services.
- *Evaluation* – the Guidelines provide targets in the form of indicators and standards that enable the performance of the individual routes and brands to be evaluated and monitored.
- *Budgeting* – the preparation of annual program plans and budgets will reflect the goal of providing service to the policy levels established in the service design guidelines which, in

turn, will enable the TransLink Board to focus on the policy and service impacts of budget adjustments.

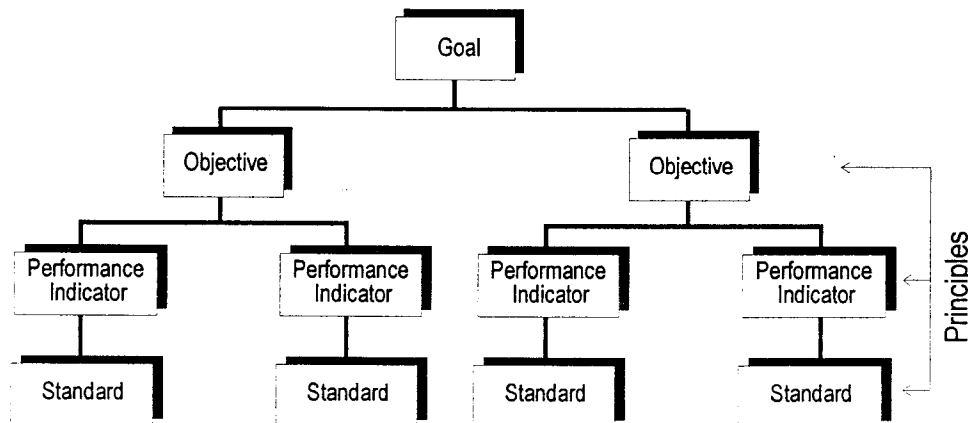
- *Public Accountability* – political decision-makers, transit customers and the general public will be able to identify the minimum levels of service and performance that are to be provided. The allocation of the resources of the transit system should be seen to be based on equitable and rational criteria that are explicit and available for public scrutiny.

The Guidelines are intended to be flexible in interpretation and application, and to be continuously refined over time. Flexibility in application and interpretation should be maintained, as the environment in which these standards will be applied is not static and will continue to change as the region grows and transportation demand increases. As new types of services and data sources are introduced, revisions to the Guidelines may become appropriate.

The Guidelines have been designed as flexible targets that TransLink would gradually achieve by 2009, assuming that its funding levels remain similar to those in the 3-Year Transportation and Financial Plan (2002-2004). The Guidelines set targets for minimum desirable levels of transit service and will be applied to identify transit services that may be falling below acceptable performance levels.

2. Development of the Transit Service Design Guidelines

The overall approach was to develop a hierarchy of goals, objectives, performance indicators and standards. Based on the general goals of the STP, specific objectives to be achieved were developed along with indicators and standards to measure progress towards the objectives and goals. Performance indicators are the specific, quantifiable criteria that will be used to measure the performance of the system in relation to an objective. Standards are the target level of performance, which will be used to evaluate the criteria identified in the indicator. The relationship is shown in Figure 1.



3. Objectives and Indicators of the Transit Service Design Guidelines

The Guidelines support the following key service objectives intended to meet customers' needs and attract new customers to TransLink's transit system:

- *Efficient Service* – each transit service and mode should be reasonably cost-efficient by providing a level of service appropriate to the level of customer demand. The recommended guideline ensures that each transit service maintains a minimum level of productivity as measured by the average percentage of seats occupied. Services falling below the guideline would be reviewed for possible adjustments to schedules, routing, frequency or vehicle type to improve their productivity. In most cases, this productivity guideline will take precedence over other guidelines.
- *Comprehensive Service* – transit service should be available within a short walking distance for most GVRD residents and provide convenient access to town centres and other major destinations. Guidelines specify the maximum walking distance to a rapid transit station or bus stop as well as the maximum number of transfers for trips to major regional destinations and activity centres.
- *Frequent Service* – transit service should be frequent, particularly during rush hours and the mid-day period, to improve convenience and minimize customer waiting times. Guidelines establish minimum bus stop spacing and minimum service frequencies and hours of service.
- *Convenient Service* – transit service should be available from early morning to late night seven days a week, particularly on major routes serving town centres and other major destinations, and allow convenient transfers between services. Guidelines set the minimum hours of service, including evening periods, and the scheduling of services to allow convenient transfers between services and modes.
- *Comfortable Service* – customers should be provided with adequate space for a comfortable ride on board transit vehicles and should not have to stand for long periods of time. Guidelines have been defined for the maximum number of passengers to be carried on transit vehicles and maximum customer standing times.
- *Reliable Service* – transit services should be designed to ensure on-time performance, avoid early running and minimize late running. Guidelines have been set for on-time arrivals and departures of transit vehicles at route terminuses and mid-route scheduled timing points.

Service warrants have also been established to provide guidance on when to introduce bus and community shuttle services in new development areas and new express services. These service warrants identify quantitative and qualitative conditions that should be met before a new service is introduced to ensure that it can operate efficiently, safely and cost-effectively. Key conditions include minimum residential and employment densities, adequate road and pedestrian access systems and minimum number of total trips generated for each additional bus service hour required to provide new service to the area.

4. Incorporating the Transit Service Design Guidelines into City Planning Decisions

It is expected that the TransLink Board will adopt these Guidelines and that TransLink staff will use them to provide improved transit services throughout the region. It is recommended that Council endorse the Guidelines and that staff be directed to incorporate these Guidelines into various City planning initiatives including land use, transportation, development application reviews, infrastructure, sustainability, and community liveability.

The endorsement of the Guidelines will assist the City in enhancing the co-ordination between transit planning and City planning efforts. Specifically, these Guidelines will help in achieving the following City objectives:

- sustainability;
- City Centre viability;
- compact, liveable and accessible communities;
- efficiencies (e.g., coordinating infrastructure and transit planning with redevelopment and new development);
- certainty regarding, if, when and the type of transit service which may or will be provided or upgraded in different areas of the city;
- effective use of tax dollars (e.g., City services and new developments will be better coordinated with transit improvements); and
- enhanced travel choices.

The Guidelines will be applied by TransLink in consultation with member municipalities of the GVRD through the Annual Program Plan process. As part of this process, Council endorsement of specific transit projects and Program Plans is usually sought before any regional or local service improvements are submitted by TransLink staff to the GVTA Board for approval.

Financial Impact

There is no immediate financial impact to the City as a result of endorsement of the Guidelines by Council. Any new transit-related infrastructure or roadway modifications required as a result of the implementation of the Guidelines would be funded from the annual Transit Plan Infrastructure Improvement Program, which is subject to Council approval. Most capital projects related to transit passenger amenities (e.g., accessible bus stop installations) and other transit infrastructure improvements (e.g., minor road works to accommodate transit operations) are eligible for 50/50 cost-sharing between the City and TransLink.

Conclusion

TransLink's Transit Service Design Guidelines provide one tool to guide the allocation of resources for transit services. TransLink will use the Guidelines to respond to high priority customers needs and expectations regarding overcrowding, improved service reliability, connections, service coverage, and the directness of the service. As a result, it is anticipated that overall customer satisfaction will increase and, in turn, lead to higher ridership and greater public support of the regional transit system. City endorsement and application of the Guidelines will help the City to better co-ordinate transit planning with City planning decisions regarding land use, transportation, development application reviews, infrastructure, sustainability, and liveable communities.



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