

# **Millennium Line, Fare Technology Safety & Security Study**

## **Executive Summary**

**September 2000**

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### Introduction

Since 1986, SkyTrain has been a transit success in the Lower Mainland and has performed well relative to other rail transit systems around the world. The 29-km line has undergone three expansions since opening day and now carries more than 40 million passengers per year. Despite this success, improvements can be made to increase SkyTrain's popularity and attract additional ridership.

Years of market research and public consultation reveal that particular focus is needed on improving passenger safety and security. The research shows that public concern regarding safety and security and fare evasion keeps people from using SkyTrain, makes existing riders feel uncomfortable while using the system, and reduces SkyTrain's appeal as a mode of travel.

Recognizing that one of the key goals of the Millennium Line is to broaden SkyTrain's customer base and increase transit's market share, RTP 2000 has undertaken extensive study to develop strategies that will address public concern about safety and security associated with using SkyTrain. This study brings together all the components of this work by RTP 2000 and others.

### Market Research

Over the last two years, RTP 2000 has conducted several market research studies to identify ways to make the Millennium Line a safe system. The market research to date falls under three main categories:

- **Commuter Simulation Model**

This is an innovative computer-modeling tool often used in consumer product research by the New York-based market research firm MS&P. The simulation model was used identify the most effective allocation of SkyTrain resources to generate the most ridership. Improved safety and security was found to have potential to increase SkyTrain ridership.

- **Focus Groups**

Several focus group sessions have been held during the past two years to assess public attitude about SkyTrain safety and security. These sessions consistently revealed personal safety and security to be a major concern among users and non-users. It was also found that people link fare evasion with criminal activity on the SkyTrain system.

- **Public opinion surveys**

RTP 2000 has conducted surveys ranging from in-depth door-to-door interviews to telephone surveys. Like the focus group study results, public opinion surveys have

shown that people feel that safety and security and fare evasion on the SkyTrain system need to be improved.

Overall, the market research reveals that the public has significant concerns about safety and security associated with SkyTrain and that the lack of gates attracts a criminal element who cheat the system by not paying their fare. Although these concerns are often derived from second hand information rather than first-hand experience, they do impact peoples' decisions about using the system.

RTP 2000's studies show that taking steps to improve SkyTrain's performance in terms of safety and security and fare evasion will have a high probability of attracting additional ridership both to the Millennium Line and the existing Expo Line.

Among the suggested methods of addressing safety and security, the public appears to have two main preferences. These include increased staffing at stations and on trains, and putting gates in stations to reduce fare evasion and improve personal safety and security.

### **Public Consultation**

The largest and most extensive public consultation program conducted in the Province of British Columbia gathered input from nearly 17,000 people. The main components of this program included:

- 23 Planning and Urban Design Open Houses
- Three week long Ideas Forum
- More than 30 Station Design Forums and Workshops

The overall results of this program reveal that safety and security, followed by fare evasion top the areas of public concern. These findings support those from RTP 2000's market research and provide direction for developing strategies to improve the service.

In addition to RTP 2000's public consultation program, the Provincially appointed Special Commission for SkyTrain Review sought public input on all aspects of the Millennium Line project. Consistent with previous findings, the Special Commission found that safety and security should be given special consideration in planning the Millennium Line. Recommendations from this study focus on station designs that will improve safety and security and reduce fare evasion.

### **RTP 2000 Initiatives**

To address the overwhelming message from the public that safety and security need to be improved on the Millennium Line, RTP 2000 engaged Security Resource Group (SRG) to review and recommend possible strategies. SRG's study comprised four parts.

1. Review of safety and security on the Expo Line and other transit systems. This study made several safety and security related recommendations focused on station design, operational policies, public involvement, station area land uses and a review of the current fare compliance policy.

2. Review of Millennium Line station designs. In response to SRG's recommendations, RTP 2000 directed its architects to incorporate Crime Prevention Through Environmental Design (CPTED) principles into station designs. Some examples include providing clear sightlines, eliminating hiding spots and using vandalism-proof materials in the stations. SRG reviewed the design of each station to ensure that CPTED principles were incorporated and recommended additional measures.
3. Security Controls Study. SRG reviewed the proposed combination of security equipment, including the closed circuit television (CCTV) system. The study's recommendations include providing additional CCTV cameras in each station to cover larger areas, incorporating specific law enforcement needs in the security control system, and integration with the existing Expo Line security control system.
4. Policing Liaison Study. The final segment of SRG's work was to gather station design input from local police forces that would help police provide more effective law enforcement at Millennium Line stations. Some examples are the provision of security only parking spaces at each station, a dedicated security office at each station that can accommodate monitoring equipment and station observation and security phones in Designated Waiting Areas on station platforms.

### **Provincial Initiatives**

British Columbia's Attorney General conducted a review of law enforcement options on the SkyTrain system. The study recommended the establishment of a designated police force consisting of officers from local departments. This force will have the necessary law enforcement powers to effectively police the SkyTrain system and deal with drug-related and other crimes.

The Attorney General will work with local municipalities and TransLink to address their suggestions and finalize the plan.

### **Millennium Line Fare Compliance Options**

RTP 2000 engaged a consulting firm to identify fare compliance and enforcement options from other transit systems and to conduct an economic evaluation of a selection of options for the Millennium Line. Working with TransLink, three options were identified for evaluation, including:

- Base Case – continue with existing Proof of Payment system and current staffing levels on both the Millennium Line and existing Expo Line
- Full Proof of Payment – staffing increases (50 % increase) to achieve fare compliance levels equal to the gating option
- Full Gating – adding gates and staff at all stations

The results of the analysis show that the Full Gating option provides the most benefits at the least cost. In particular, the Full Gating option is anticipated to enhance passenger safety and security, attract additional ridership and reduce fare evasion on the system.