

**TO:** CITY MANAGER

**FROM:** DIRECTOR PLANNING AND BUILDING

OUR FILE: 8.618

**SUBJECT: WILLINGDON RAMP RELOCATION PROJECT: PEDESTRIAN CROSSING**

**PURPOSE:** To advise on the status of a pedestrian crosswalk of the Grandview Highway East leading up to a new Willingdon on-ramp.

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**RECOMMENDATION:**

1. **THAT** a copy of this report be forwarded to J. Dyble, Assistant Deputy Minister, Ministry of Transportation and Highways and B. Stone, Project Director, Highway 1 High Occupancy Vehicle Project, 940 Blanshard Street, Victoria, B.C., V8W 2E6.

**REPORT**

**1.0 INTRODUCTION**

At its regular meeting of 1997 December 15, Council received correspondence from J. Dyble, Assistant Deputy Minister, Ministry of Transportation and Highways regarding the Willingdon Ramp Relocation Project. The correspondence referred to an understanding by the Assistant Deputy Minister that Grandview Highway East (ie. East of Highway 1), leading up to the new Willingdon on-ramp of Highway 1, would not include an at-grade pedestrian crossing of Grandview Highway. Instead, an existing pedestrian route to Boundary Road via Myrtle Street and under Highway 1 was preferred by the Ministry of Transportation and Highways.

Arising from consideration of this correspondence, Council requested that staff prepare a report providing clarification regarding the design for Grandview Highway which had been approved by Council at its meeting on 1997 November 24.

This report is written to advise on the background and current status of the at-grade pedestrian crossing of Grandview Highway East leading to the new Willingdon on-ramp of Highway 1.

## 2.0 PEDESTRIAN CROSSING OPTIONS

### 2.1 Background

During the preliminary design phase for the new Willingdon on-ramp, City of Burnaby staff worked closely with Ministry of Transportation and Highways staff to develop a design concept for the facility. Recognizing that there would be a continuing desire for pedestrians from the office/industrial area south of Grandview Highway East to access the Grandview Highway/Boundary Road area, three options for accommodating this movement were considered, including the following:

- (i) Upgrading the existing underused pedestrian route via Myrtle Street underpassing Highway 1 to Boundary Road (**Figure 1**).
- (ii) Constructing a pedestrian overpass of Grandview Highway East between Regent Street and the Grandview Highway overpass of Highway 1 (**Figure 2**).
- (iii) Providing an at-grade pedestrian crossing just east of Ingleton Avenue from the sidewalk on the south side of Grandview Highway to the existing sidewalk leading to the Grandview Highway overpass of Highway 1 (**Figure 3**).

The design for Grandview Highway leading up to the new Willingdon on-ramp, which was approved by Council at its regular meeting of 1997 November 24, incorporates an at-grade pedestrian crossing as shown in **Figure 3**. The background to this decision of Council is outlined in the following sections.

### 2.2 Evaluation of Pedestrian Crossing Options

#### 2.2.1 Existing Myrtle Street Pedestrian Access

The initial proposal advanced by the Ministry of Transportation and Highways to provide for pedestrian access to Boundary Road was to upgrade the pre-existing pedestrian connection via the Myrtle Street right-of-way to the pedestrian walkway under the Highway 1 overpass, as shown in **Figure 1**. As this existing pedestrian route has fallen into disrepair due to lack of use, reinstating this route would require clearing overgrown vegetation from the Myrtle Street right-of-way, providing an asphalt walkway and installing

appropriate lighting.

Regardless of whether an at-grade crossing of Grandview Highway East is provided, the Ministry intends to upgrade the existing Myrtle Street access. However, in the course of the design process, City staff had the following concerns regarding the existing Myrtle Street access as the **sole** pedestrian route between the office/industrial area and Boundary Road:

- (i) The route between Grandview Highway East and Boundary Road (at Grandview Highway) is longer and more circuitous, requiring pedestrians to travel north and westwards via Myrtle Street to Boundary Road and south on Boundary to the Grandview/Boundary intersection. The Myrtle Street route represents a total distance of 800 m. as compared to 400 m. via the existing route using the sidewalk over the Grandview Highway overpass.
- (ii) The route raises concerns regarding the personal safety and security of pedestrians, especially at night, using an abandoned road right-of-way and an underpass of the freeway, both of which are not clearly visible by adjacent residents or from passing vehicles.
- (iii) The route did not provide a satisfactory access to transit on Boundary Road. As the nearest bus stops are on Boundary Road and Grandview Highway, reliance on the Myrtle Street access route would tend to discourage transit usage.

### **2.2.2 Pedestrian Overpass at Grandview Highway**

The option of a pedestrian overpass of Grandview Highway East directly over the new Willingdon on-ramp in the vicinity of Ingleton Avenue was also reviewed by Ministry staff. The pedestrian overpass would have been constructed from the lane behind the properties on Regent Street, across a single lane of Grandview Highway East, to connect with the existing sidewalk on the Grandview overpass as shown in **Figure 2**. The option of a pedestrian overpass maintains the direct pedestrian connection via Grandview Highway to Boundary Road, but raises the following issues:

- (i) The cost of a pedestrian overpass in the range of \$350,000 - \$550,000 is substantially higher than other options. Further, as the Ministry will not commit to funding this option, it is assumed this cost would accrue to the City of Burnaby.

- (ii) Due to the short at-grade crossing distance, there was some doubt that the pedestrian overpass would be used. These considerations cast doubt on the cost-effectiveness of a pedestrian overpass in this application. Subsequently, in a letter of 1997 December 11, the Ministry advised that it would not consider a pedestrian overpass and that the Myrtle street pedestrian access was preferred. However, although it would be an exception to policy, the Ministry did agree in this letter to include an at-grade pedestrian crossing in the design for Grandview Highway East (**Figure 3**).

City staff also advised the Ministry that provision of a pedestrian overpass would have the following undesirable implications for the residents of the Regent Street area:

- **impact on residential properties** - provision of the ramping for a pedestrian overpass on the south side of Grandview Highway East would require approximately 2.5 m. of additional property from the residences located in the Regent Street area backing onto the on-ramp. This property is over and above the current 3-4 m. of property currently required. In addition, to accommodate a pedestrian overpass, the profile of the on-ramp would need to be lowered, thereby increasing the height of the retaining walls at the rear of the residential properties.
- **barrier effects** - due to the short crossing distance, pedestrians are unlikely to use a pedestrian over pass unless fencing is installed on both the north and south sides of Grandview Highway East to prevent pedestrians from crossing at grade. City staff remain concerned about the barrier effect of these fences in creating the impression of a walled industrial area and residential community.

### 2.2.3 At-Grade Pedestrian Crossing

As pedestrians will likely choose to cross illegally at grade even if an overpass was provided or the Myrtle Street route was upgraded, City staff advised the Ministry that pedestrians wishing to cross the one lane of Grandview Highway at grade should be afforded the safest crossing possible. As borne out by a Safety Review conducted for the Ministry by Hamilton Associates, site conditions are conducive to providing a safe pedestrian crosswalk of Grandview Highway east of Ingleton due to the following factors:

- **sight lines** - the crossing would be located on a straight tangent section of Clydesdale with approximately 200 m. of direct line of sight for vehicles to see pedestrians and for pedestrians to see vehicles.
- **crossing opportunities** - the Hamilton Associates Safety Review estimated that the traffic volumes on Grandview Highway East, after the project, would result in 185 gaps in traffic of six seconds or greater and 50 gaps of ten seconds or greater during the peak hour. As pedestrians would be crossing only a single travel lane of 4.8 m. (15 feet), there would be plenty of safe pedestrian opportunities to cross Grandview Highway East.
- **one way traffic** - as the section of Grandview Highway East to the on-ramp would be a single lane of one way traffic, pedestrians will readily be able to assess the availability of gaps in traffic to determine a safe time to cross.
- **traffic speed** - as Grandview Highway East is not part of the on-ramp, but a road to access the ramp, the posted speed of this section of Grandview Highway East will be 50k. with a design speed of 60k. As the speed is equivalent to a municipal street, a pedestrian crossing is appropriate in these circumstances.

In summary, the provision of a pedestrian crosswalk was supported by a Safety Review conducted by Hamilton Associates. This review concluded that a pedestrian overpass was not warranted and that a safe pedestrian crosswalk of the one lane of Grandview Highway could be provided if it incorporated the following features:

- (i) supporting sidewalks
- (ii) appropriate channelization to direct pedestrians to the crosswalk, including drop-curbs
- (iii) adequate signage to alert drivers well in advance of the crosswalk

Based on the Safety Review and a commitment from the Ministry to provide an at-grade pedestrian crossing, staff recommended Council approval of a design for Grandview Highway East which included an at-grade pedestrian crossing.

### 3.0 CONCLUSION

Recognizing the continuing desire for pedestrians to use the existing sidewalk on the Grandview overpass to access Boundary Road, City staff have worked with the Ministry to design a safe pedestrian crossing of the one lane of Grandview Highway East leading to the new Willingdon on-ramp. Subsequently, the inclusion of an at-grade pedestrian crossing in the design was supported by a Safety Review conducted by a Ministry consultant and a commitment was received from the Ministry to provide this pedestrian crossing. As a result, the previous staff report requested and received Council approval of a design for the Grandview Highway East which included this element. Although the letter from the Assistant Deputy Minister seems to suggest that the Ministry is withdrawing from their commitment to an at-grade pedestrian crossing, it continues to be the view of staff that the at-grade pedestrian crossing is the safest and most convenient option for the relatively few pedestrians (approximately 10 per day) from the office industrial area who access business and transit services in the area of Boundary and Grandview Highway.



D.G. Stenson, Director  
PLANNING AND BUILDING



RG/yr

Attachments

cc: Director, Engineering

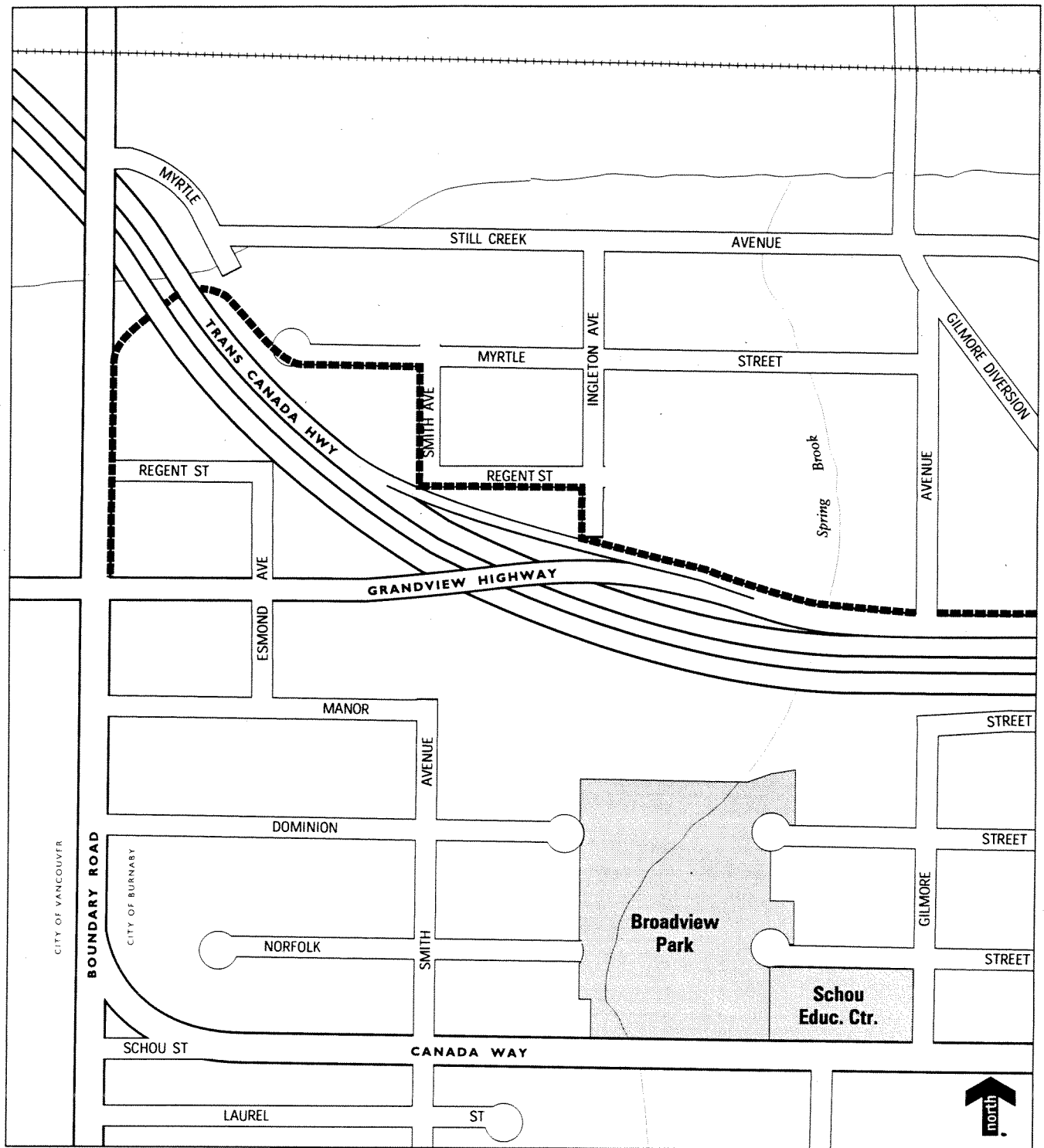


Figure 1  
**Myrtle Street Pedestrian Route**

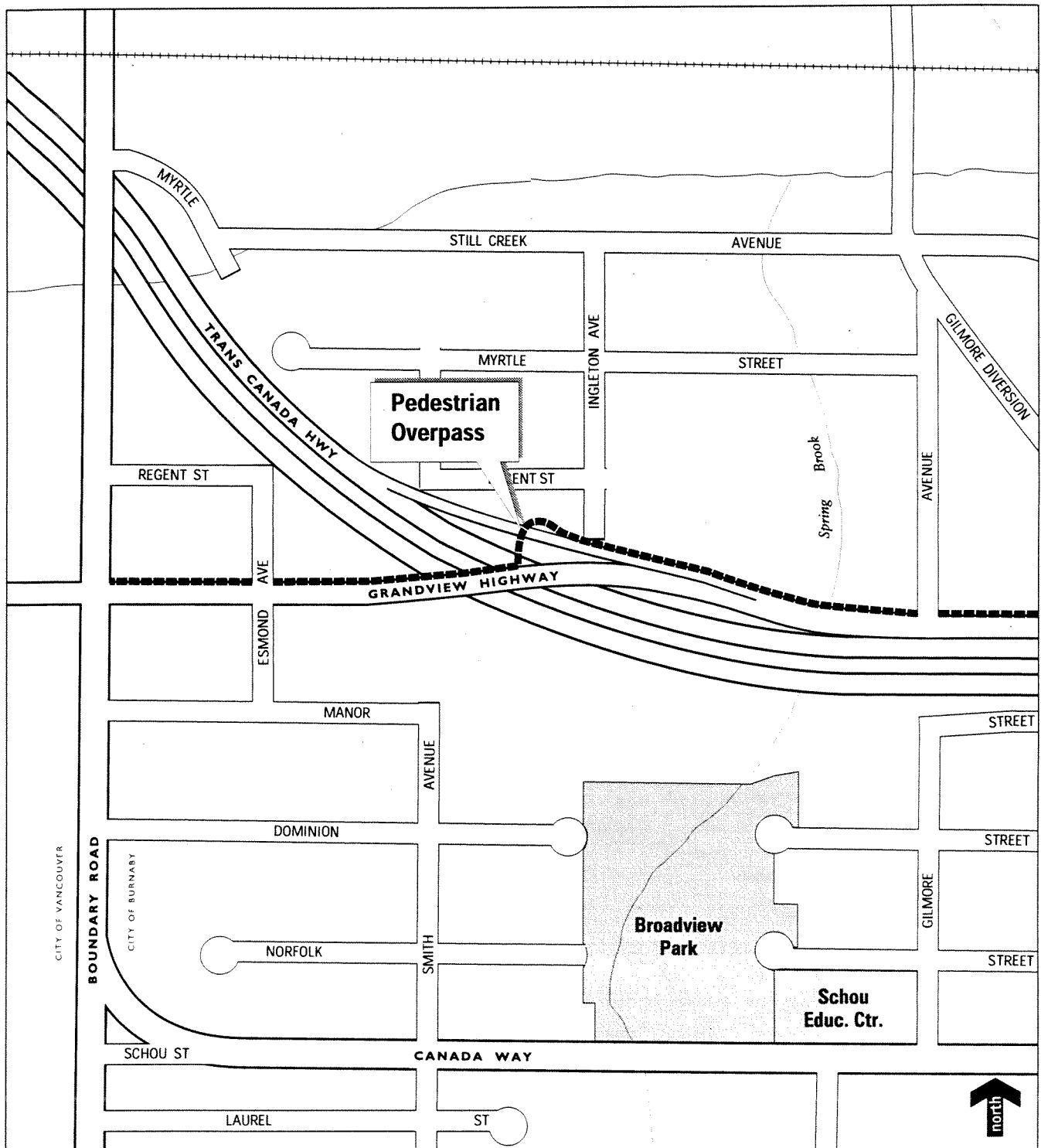


Figure 2  
**Grandview Highway Pedestrian Route with Pedestrian Overpass**



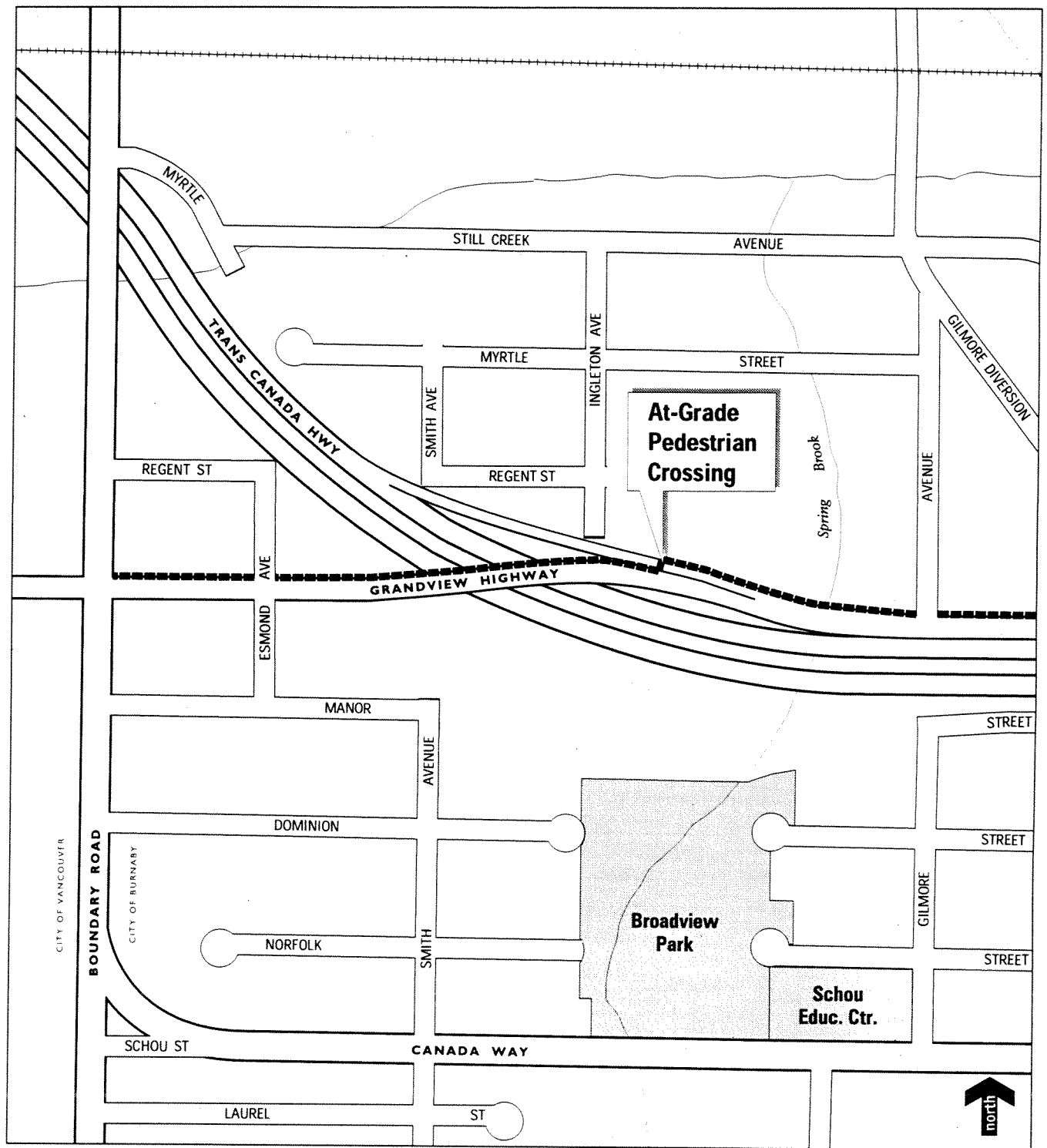


Figure 3  
**Grandview Highway Pedestrian Route with  
 At-Grade Pedestrian Crossing**

