

GRADE SEPARATION STUDY VIA – HIGH FREQUENCY RAIL PROJECT

MANDATE

Within the context of VIA Rail's High Frequency Rail Project, the objective of this study was to evaluate the need for, and the impact of, the grade separation of existing level crossings along the proposed HFR Ottawa-Toronto and Montréal-Québec corridors.

SYSTRA Canada's (formerly CANARAIL) mandate included the identification of high- and medium-risk level crossings along the proposed corridor, the prioritization for grade separation, the preparation of a preliminary grade separation design and the preparation of a Class 3 capital cost estimate at a -20/+30% accuracy.

DESCRIPTION

The specific services provided by SYSTRA Canada were as follows:

- Review of existing infrastructure;
- Grade separation prioritization study including:
 - Identification of higher-risk crossings;
 - Obtaining traffic volumes and determining cross-product values for higher-risk crossings;
 - Identification of other risk factors (train and road speed, crossing geometry, sightlines, stop sight distances & serviceability) for high-traffic crossings;
 - Identification of high- and medium-risk crossings to be considered for grade-separation;
- Technical option analysis to determine the appropriate grade separation strategy for each crossing, involving the evaluation of each of the following:
 - Geometric and regulatory constraints for safe road and railway design;
 - Grade separation footprint, available ROW and land acquisition required;
 - Impact on construction and maintenance costs;
 - Impact on train speed;
 - Impact on surrounding properties and general social acceptance;
 - Impact on nearby streets and intersections;
 - Construction difficulty;
- Complete preliminary design for the recommended grade separation strategy;
- Evaluation of land acquisition requirements;
- Preparation of a rail and road traffic management plan during construction;
- Preparation of a Class 3 capital cost estimate (-20/+30%) based on preliminary quantities.

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Technical Assistance

CLIENT
VIA Rail Canada

COUNTRY
Canada

YEAR
2017

DURATION
2 months

TYPES OF SERVICE

- Feasibility Study
- 30% Level Engineering
- Design