



West Transitway Tunnel
Pinecrest Road to the Southwest Transitway

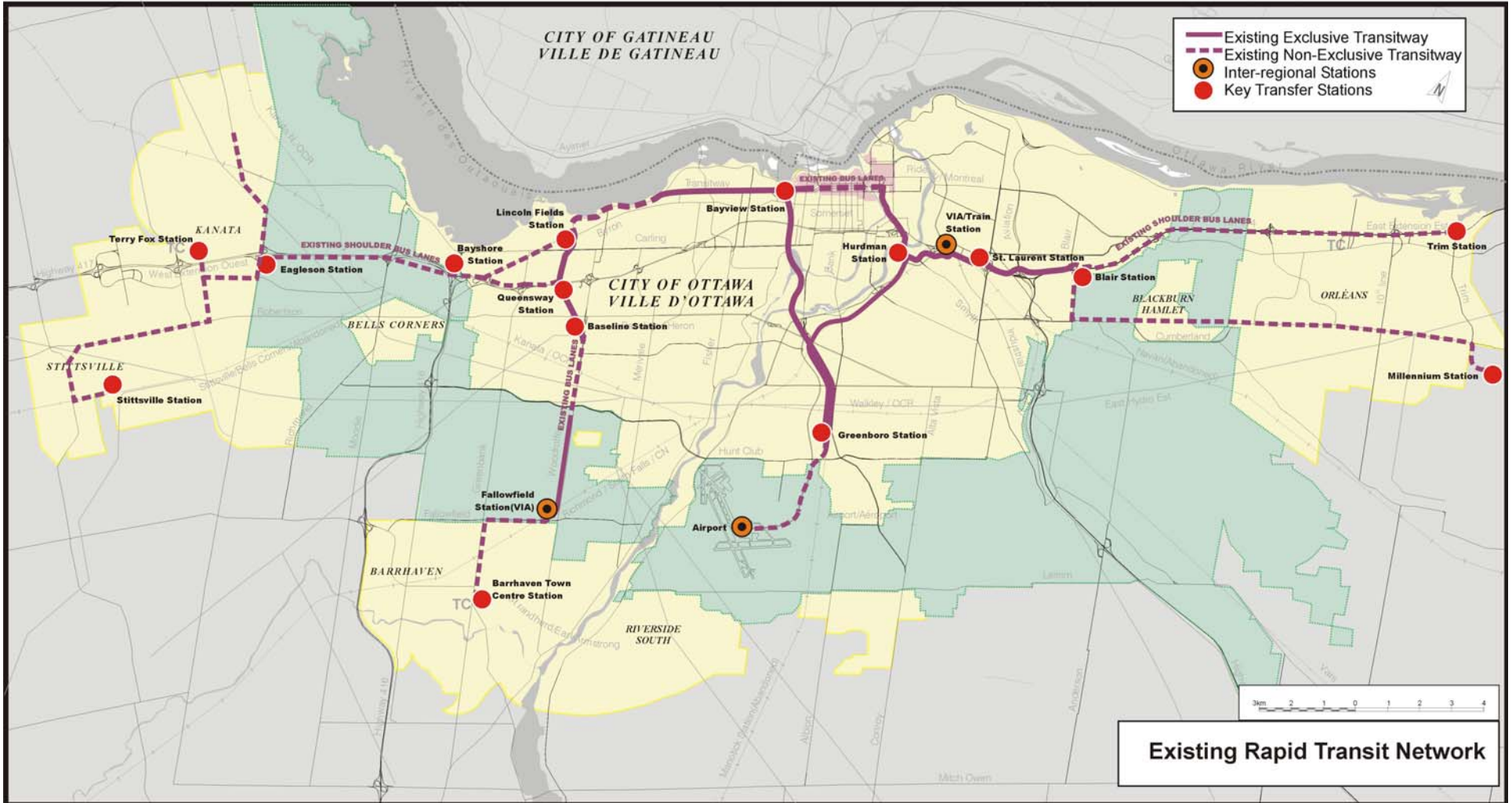
Value Engineering Study

28 October 2008

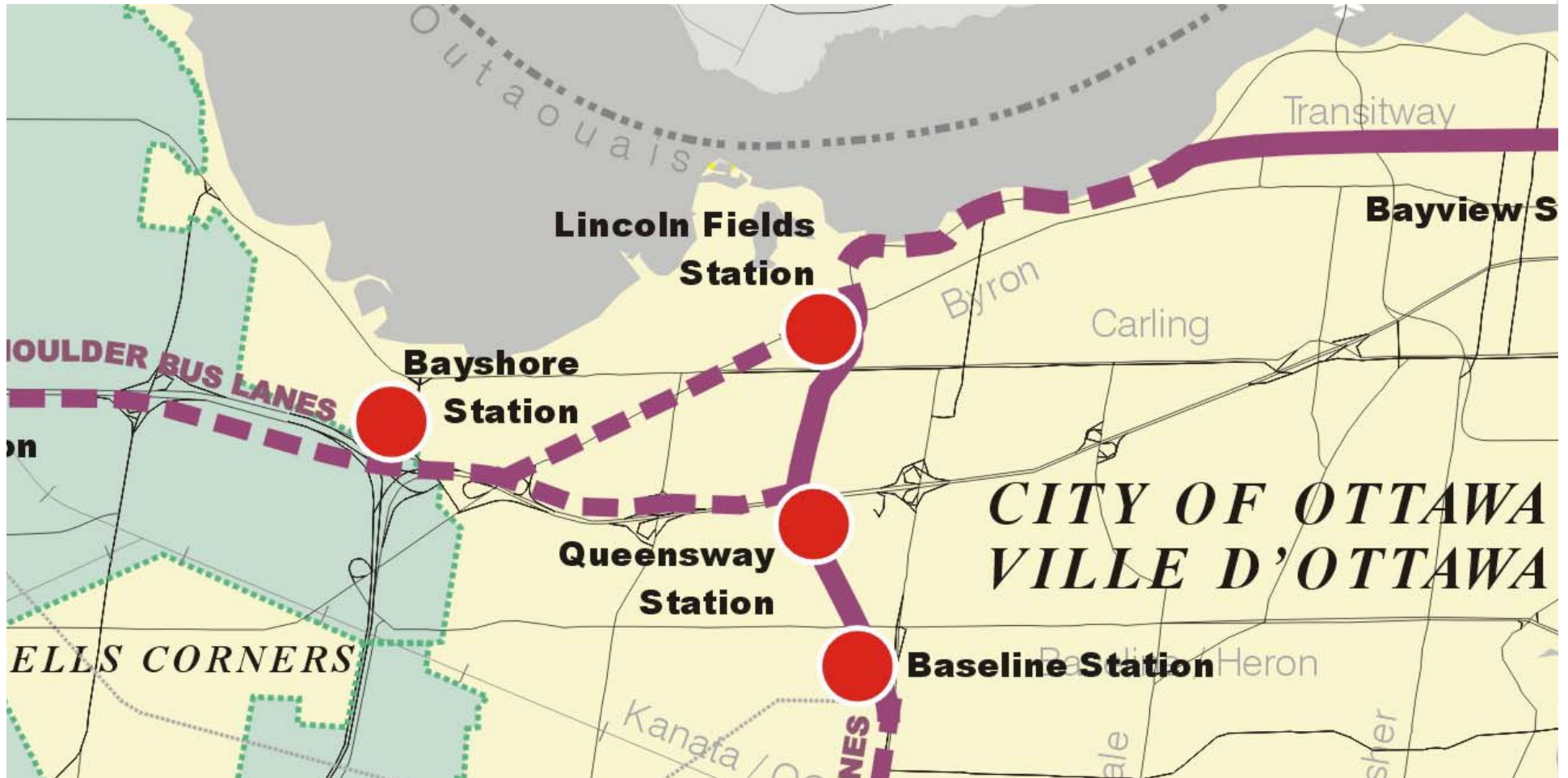


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Context: Existing Network



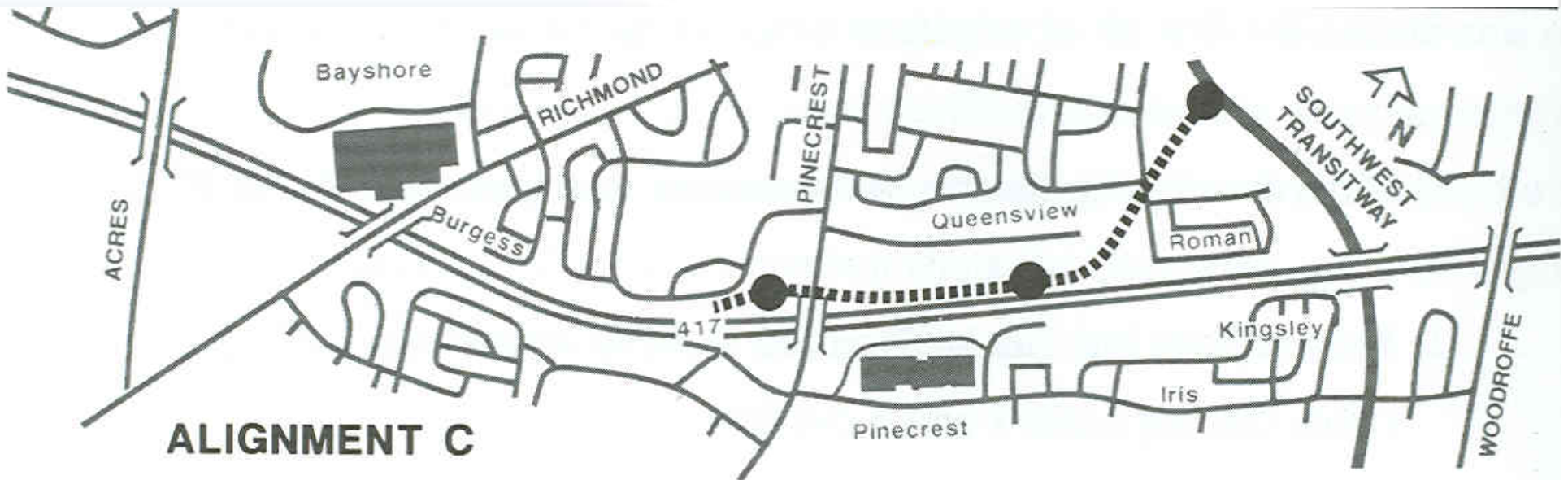
Context: Existing Network



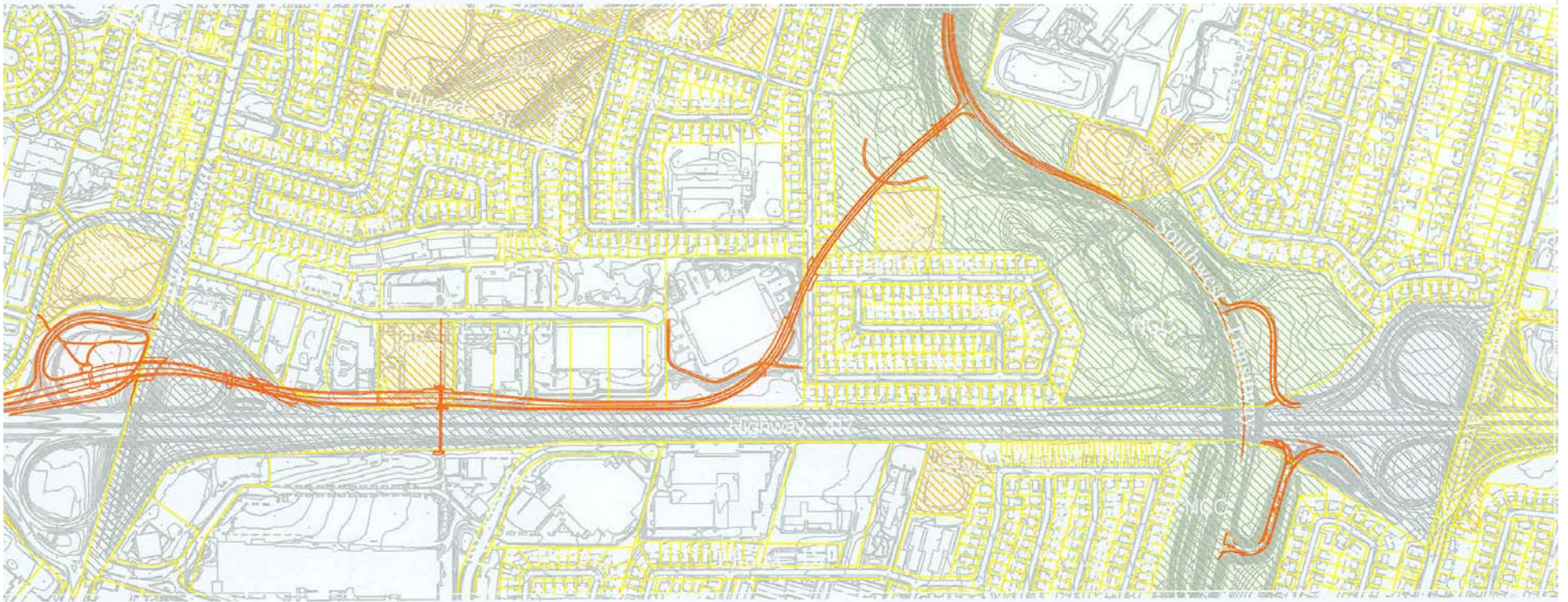
Background

- **Original study 1994**
- **Previous era included 75% funding from the Provincial government**
- **Implementation delay as City's emphasis changed to north-south link**
- **Affordability has changed since the 1990's**
- **MTO EA established a new baseline for Queensway**
- **VE selected as a tool to revisit previous decisions**

Context: Study Area, 1994 EA



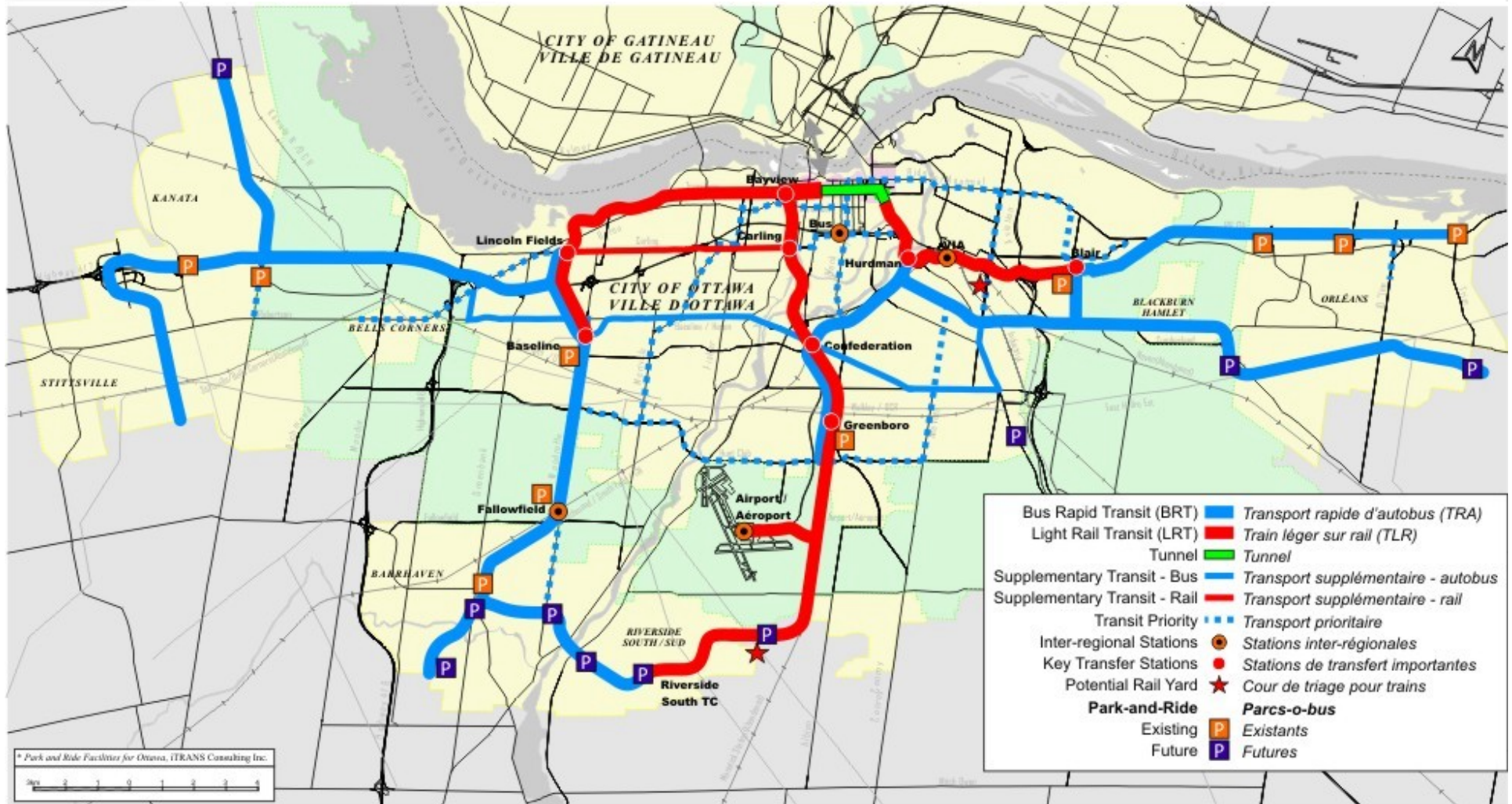
Functional Design, 1997



What were the study issues?

- **Value, Cost, long term maintenance.**
- **Accommodation of existing development and preparation for anticipated growth**
- **Short term and long term alternatives**

Context: Future Network



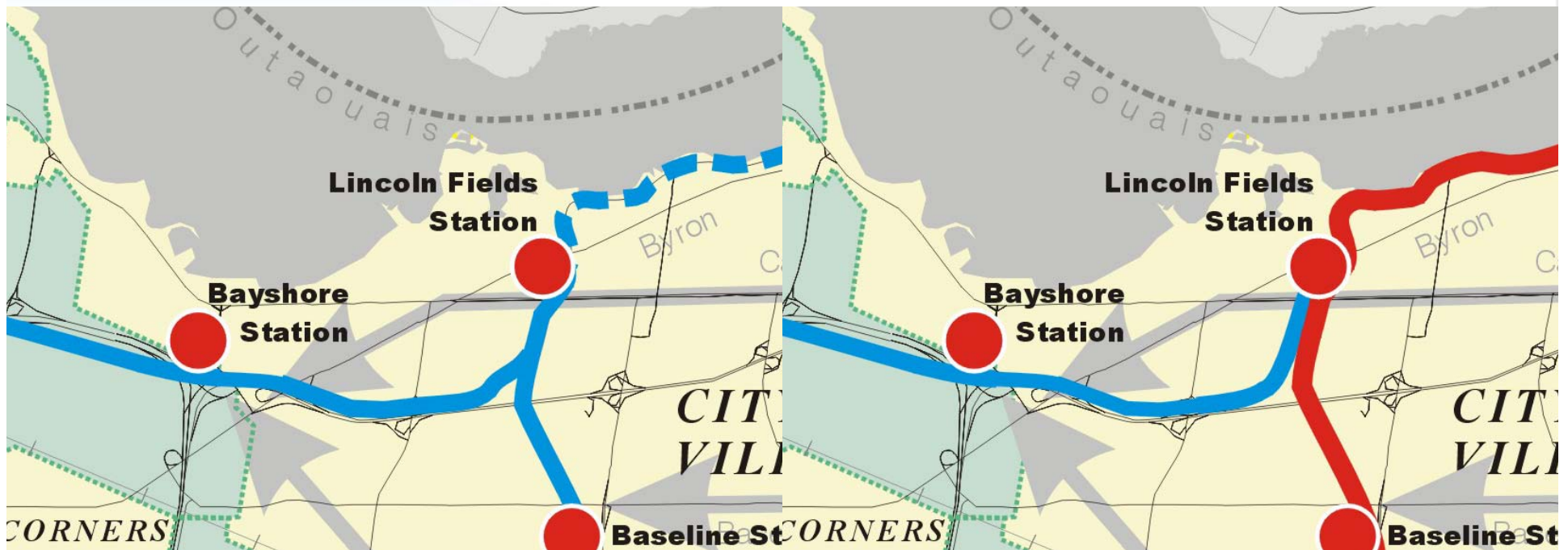
Context: Future Network



Context: Future Network



Context: Future Network



Key Issues

- **There is a mismatch in value i.e. high capital cost for small change in travel times**
- **MTO plan must be respected including 4 continuous lanes**
- **Two pinch points with delays:**
 - **Westbound signalized intersection at Pinecrest Avenue**
 - **Eastbound merge in through traffic on N-E ramp**

Study Process

- **Question all Previous Decisions**
- **Focus on Value**
- **Mandate to provide shopping list of ideas back to City of Ottawa design team**
- **Ideas present consensus of 3 days of review realizing verification will be required after workshop**

Project Functions

- **Highest Order Goals**

- Satisfy Customers
- Move People
- Increase Ridership

- **Basic Function**

- Transfer Riders
- Reduce Travel Time

- **Supporting Functions:**

- Satisfy Stakeholders

Provide customers with reliable travel times and perceived time savings versus auto



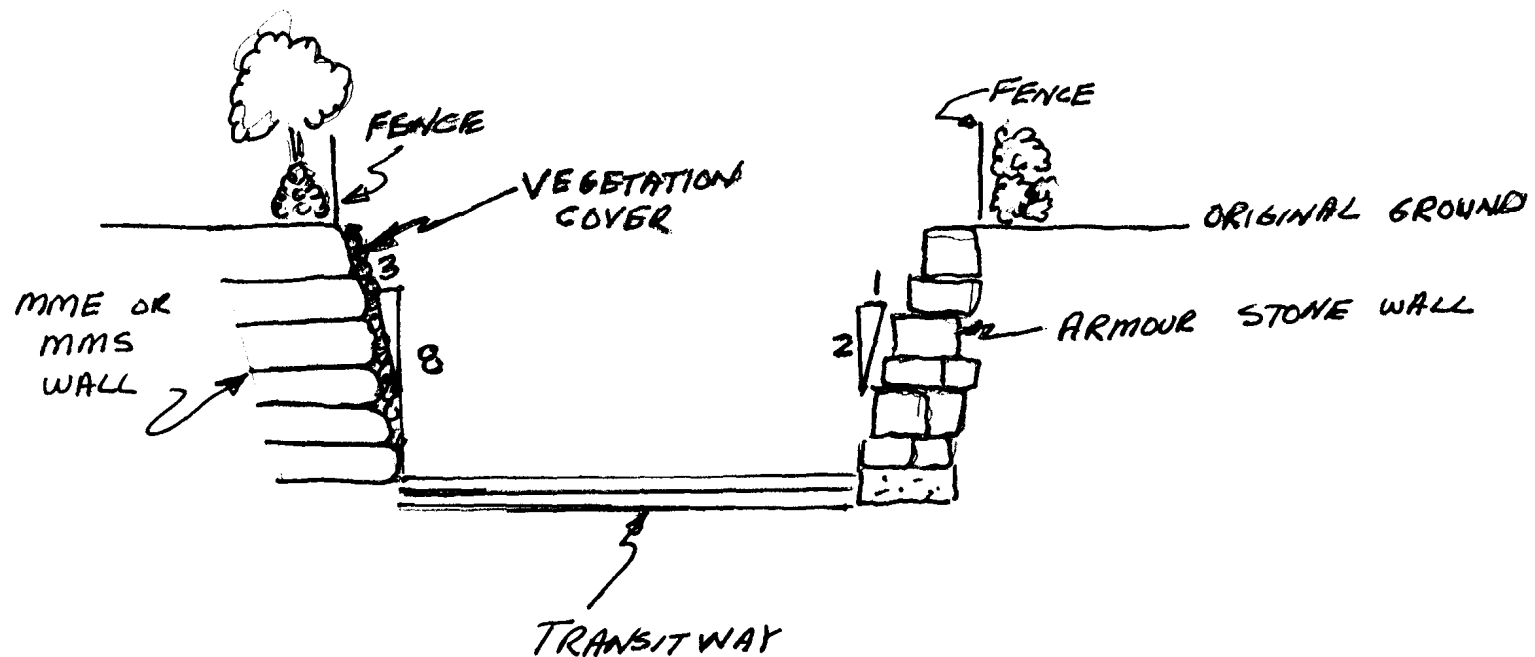
Development

- **Estimate Update**
- **Project Implementation**
- **Transit Operational Improvements**
- **Station Design**
- **Tunnel Design**
- **Design Standards**
- **Design Suggestions**

Idea Development

- **Two general categories of ideas**
 - **Modifications to the original EA design**
 - **Staging approach to allow deferral of major capital costs (including innovative use of Queensway corridor)**

Sample VE Idea Modifying Original Design





Staging Alternatives



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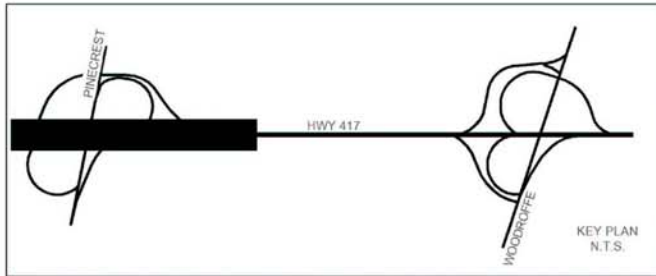
Sample Innovative Phase 1 on Bus Lanes on Queensway

Westbound buses can avoid Pinecrest signals by staging grade separation

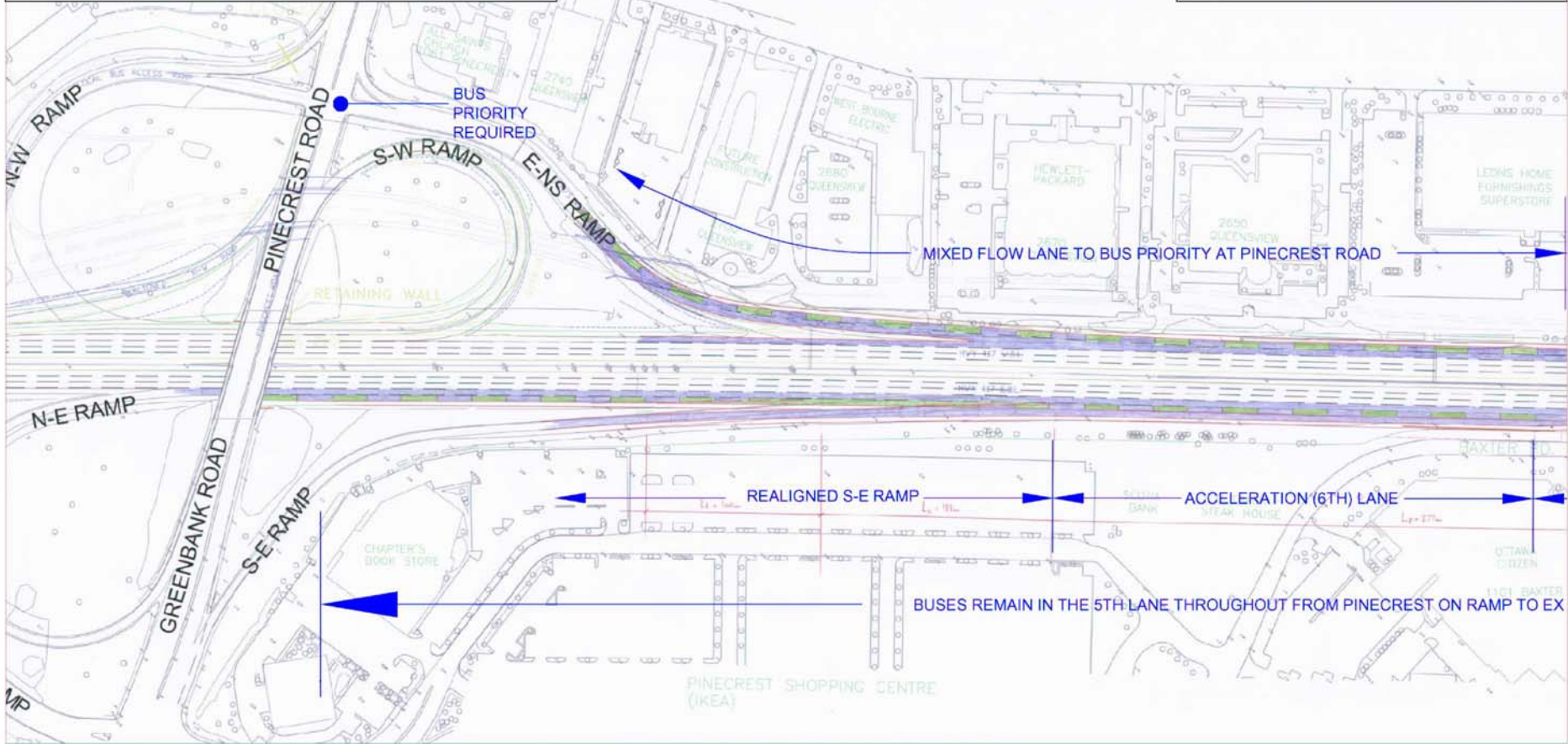
Westbound buses use exclusive bus lanes (consistent travel speeds)

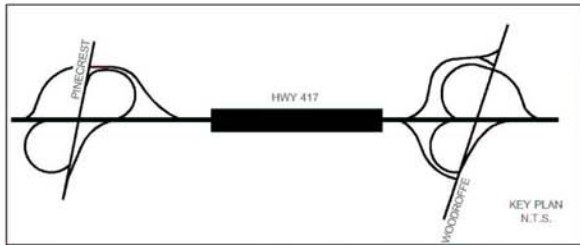


Eastbound buses have several sub-alternatives including innovative alternative with ramp crossing bus lane

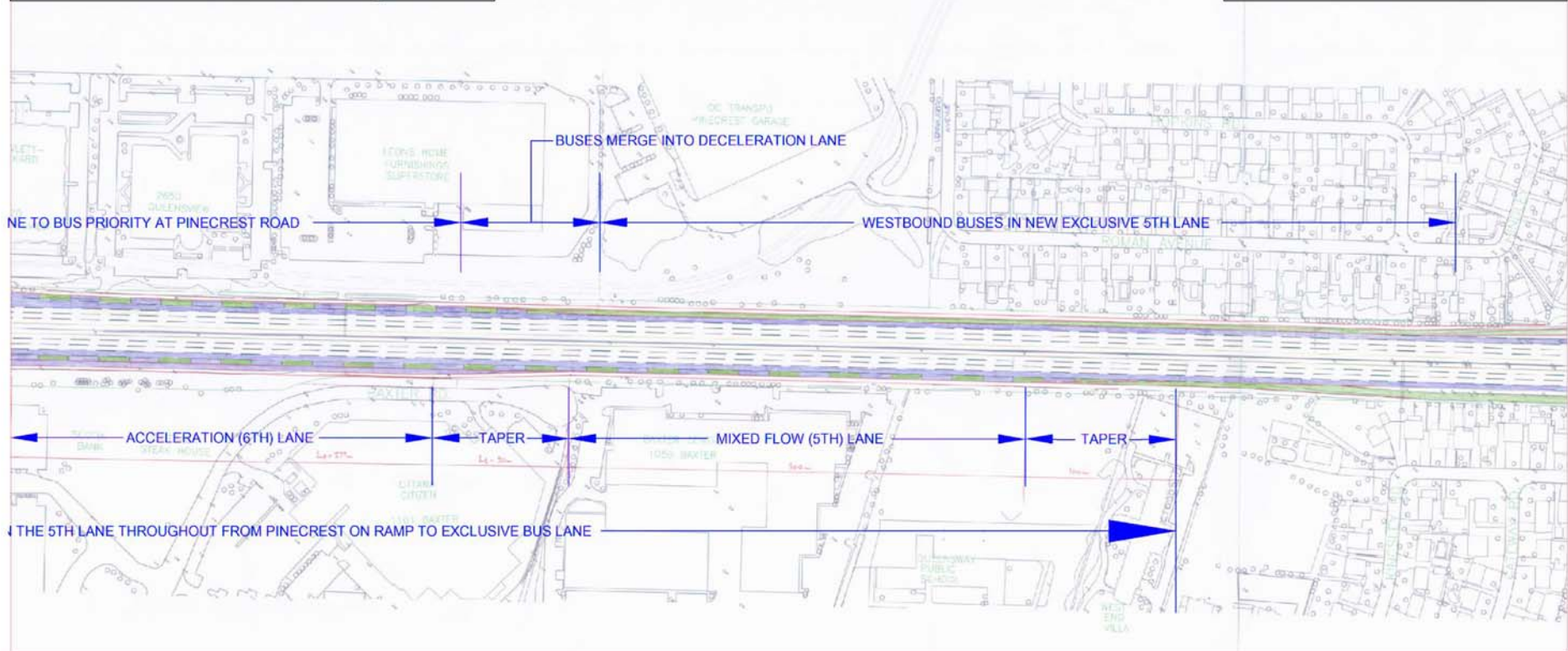


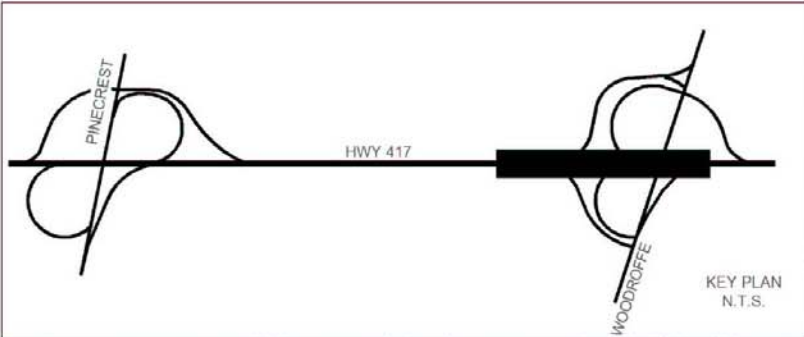
STAGE 1	FIGURE 1A
TRANSIT VEHICLES IN THE 417 CORRIDOR - BOTH DIRECTIONS	



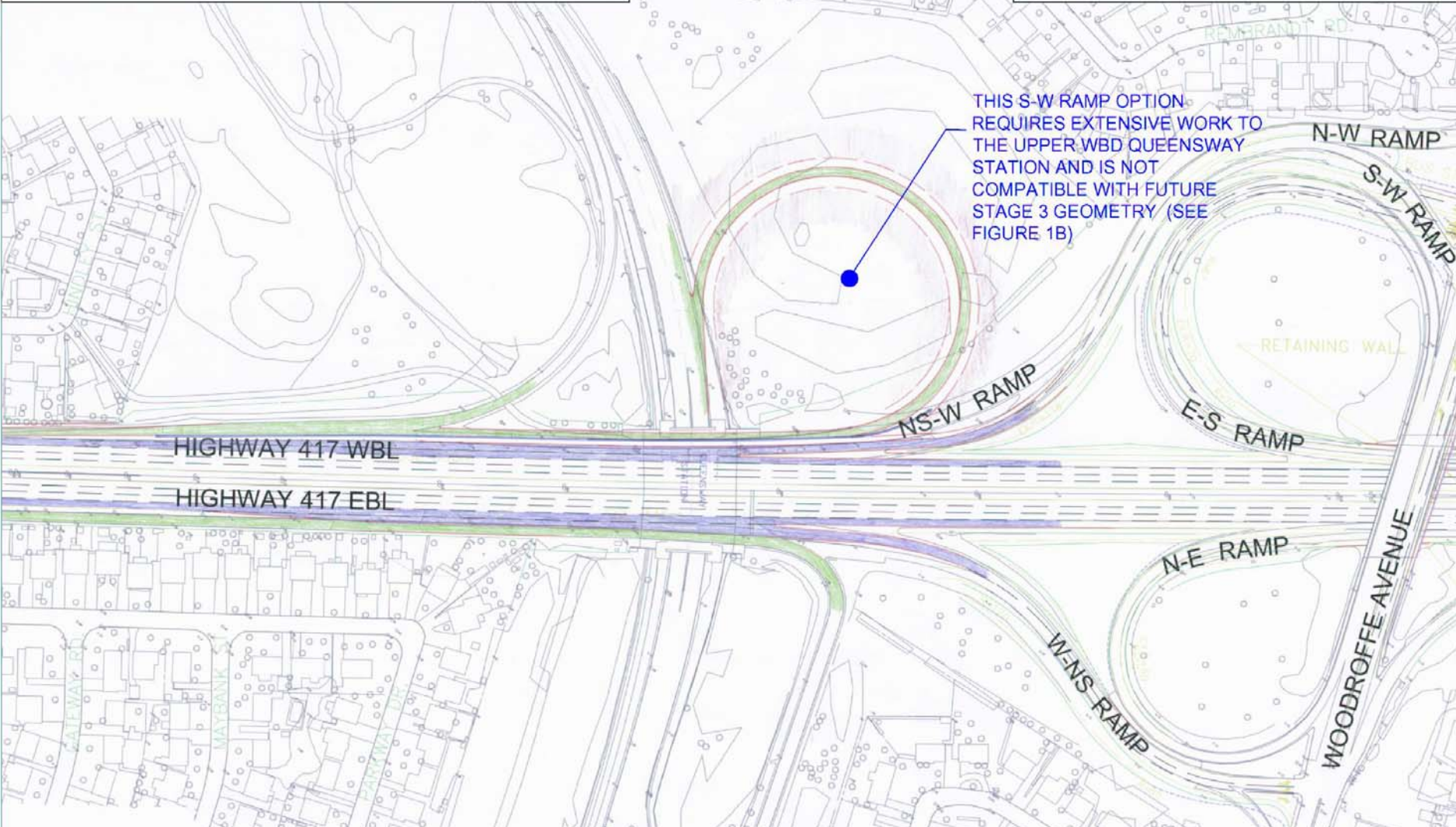


STAGE 1	FIGURE 1B
TRANSIT VEHICLES IN THE 417 CORRIDOR - BOTH DIRECTIONS	

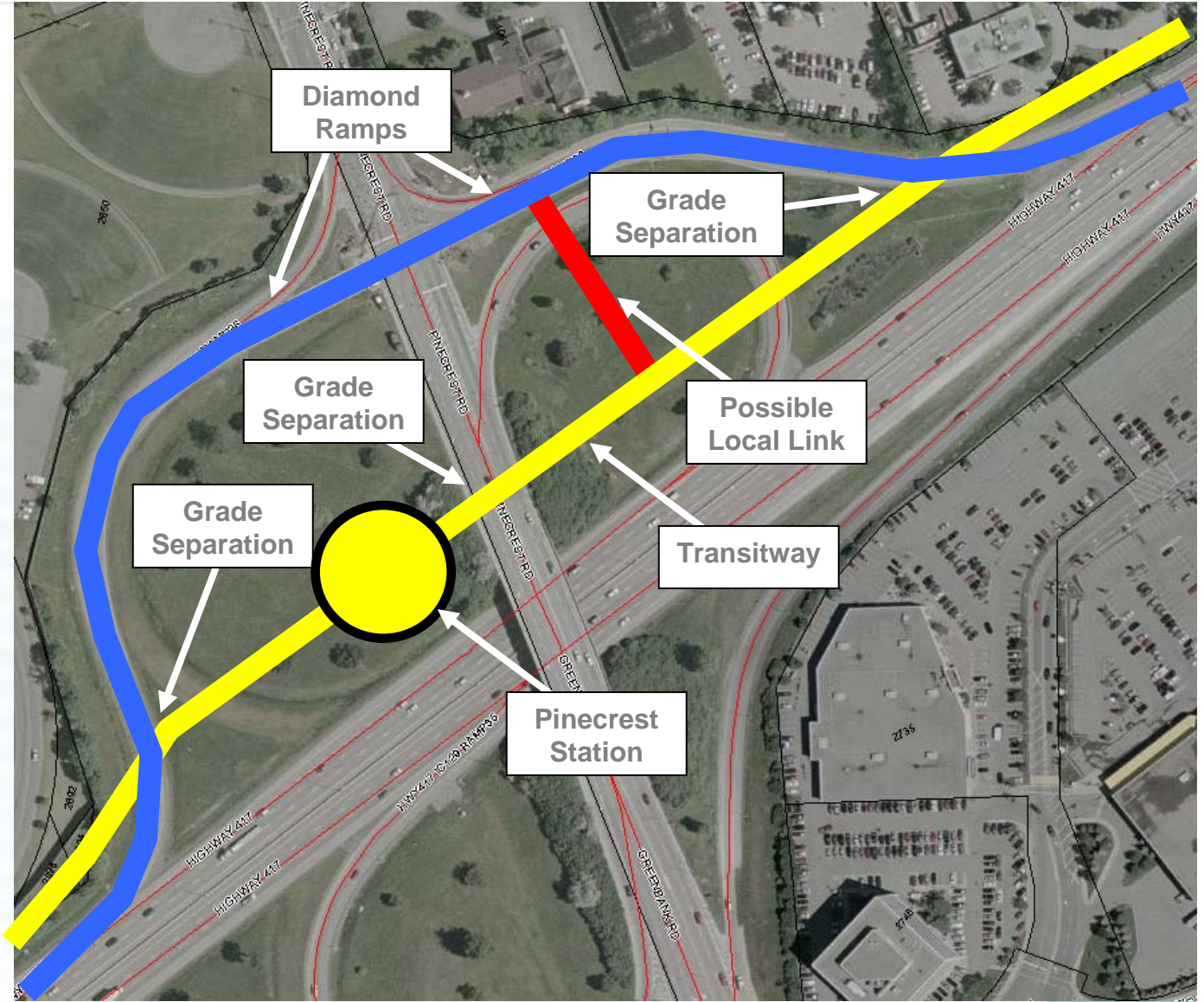




<p>STAGE 1</p>	<p>FIGURE 1C</p>
<p>TRANSIT VEHICLES IN THE 417 CORRIDOR - BOTH DIRECTIONS</p>	



Sample VE Idea Level of Detail



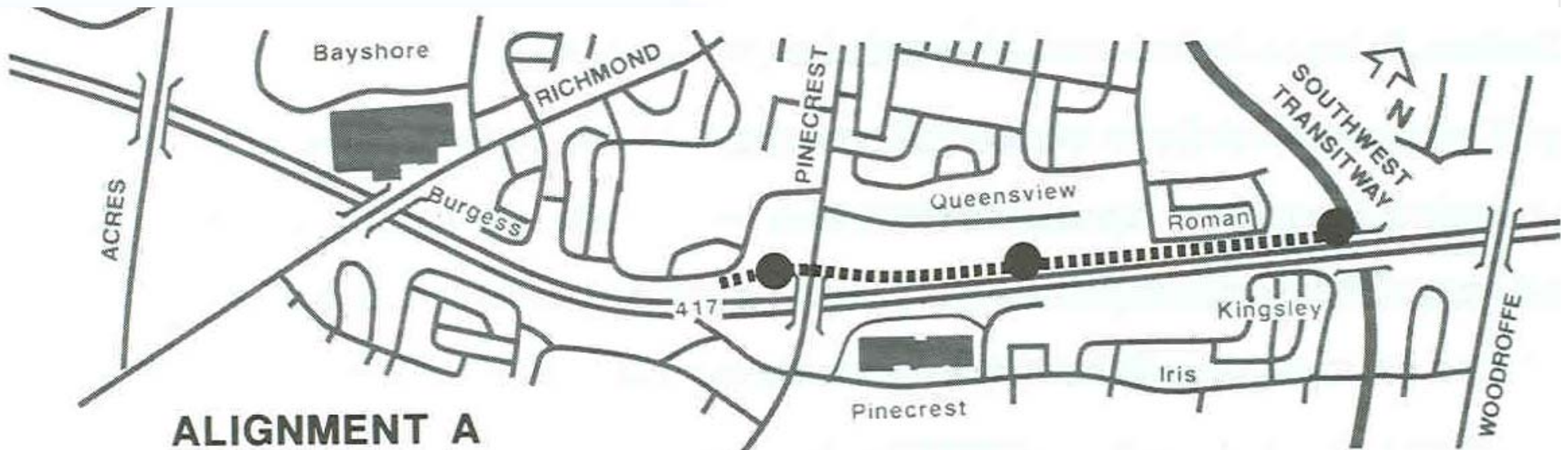
ST-32: Review Queensway Corridor as Long Term Alternative

- **Description**
 - **Construct transitway adjacent to 417 on north side by removing houses on south side of Roman Avenue to eliminate tunnel and park crossing (Alternative A)**
- **Advantages**
 - **Tunnel not required**
 - **Minimal service disruption during construction**
 - **Minimal increase in noise**
 - **Provides direct access to Pinecrest garage**
 - **May be convertible to LRT**
- **Disadvantages**
 - **Removal of 25 homes on Roman Avenue**
 - **Increases exhaust and noise in MTO corridor**
 - **New structure required at Queensway station**
- **Cost implications**
 - **Approximately \$30 million Cost Savings**

Lessons Learned/Notable Aspects

- **Very contentious EA originally**
- **Passage of time has seen financing become a larger issue**
- **There are stresses to complete projects identified in the TMP**
- **VE is best for internal advice**
- **Requires further development and future EA will consider options in greater detail**
- **VE helps in scoping the work for revisiting the EA**

Alignment recommended for review



Conceptual Queensway corridor



Next Steps

- **Completion of EA document for public and agency review**