

**NORTH SPOKANE FREEWAY  
STUDY OF ROUTE ALTERNATIVES  
EVALUATION MATRICES**

July, 1991

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## Overview

Improvement of north/south traffic flow in Spokane has been the subject of study in Spokane for nearly fifty years. Over the course of the last six years, various different alternatives were analyzed by governmental jurisdictions in Spokane County through the Spokane Regional Council in determining alternative routes for a north/south freeway. Route alternatives have spanned the area between Government Way on the west edge of the city as the western-most route and Argonne Road in the Spokane Valley as the eastern-most route. The other potential routes that have been evaluated include Maple/Ash, Division, Hamilton/Perry, Market/Green and Havana.

These route alternative concepts were generated by Spokane's Transportation Technical Committee and Citizen's Advisory Committee on Transportation and constituted a starting point for the evaluation of north/south transportation solutions in the 1985 Regional Transportation Plan Update. These citizen's advisory committees took a generalized approach to the route alternative issues. A critical aspect of this process was to development of the plan and the needs, facilities, and studies required for quadrants and corridors within the study area. Several regional issues were established which would guide the formulation of the alternatives to be evaluated.

This was followed by a study to identify feasible alignments for a north/south freeway. To assist in the evaluation, a Project Advisory Committee (PAC) was formed to provide a forum for interagency coordination and to provide direct local input into the process. The PAC considered both long term and short term solutions. To integrate the public into the process, in addition to having two citizen representatives on the PAC, two public workshops were held in June, 1987 and two public meetings were held in October, 1987. A public meeting was also held in May, 1988 to specifically present the preliminary findings of the long term study.

The North Spokane Transportation Study: Long Term Improvements (1988) provided a relatively detailed evaluation of three route alternatives. These included Hamilton/Perry, Market/Greene, and Havana. The other four concepts had been eliminated through the public process from further consideration. The primary reasons for elimination of these concepts, which include Government Way, Maple/Ash, Division and Argonne Road are discussed below.

## Government Way

The Government Way corridor could link with SR-195 at its present interchange with I-90. Because of existing railroad viaducts and embankments, there would be limited design flexibility for interchange configuration. Immediately north of I-90 are businesses along Sunset Way with single-family residences north to Greenwood Road. This route would also pass adjacent to High Bridge Park. North of Greenwood Road, are the Greenwood and Riverside Park cemeteries. Route options are limited to the existing Government Way right-of-way which passes between the two cemeteries or along the south and west of Greenwood cemetery which is constrained by a Burlington Northern Railroad right-of-way, basalt rimrock formation and Palisades Park (a city conservation area). Further north is the Fort Wright area with the campus of Spokane Falls Community College, a

National Historic District, and the Mukogawa Fort Wright Institute. Finally, in order to swing back to SR 395, the corridor would cross Riverside State Park, the Spokane River (with crossings limited by topography), and approximately two miles of residential neighborhoods. The Five Mile Prairie bluff would also limit route options south through either residential neighborhoods or a combination of residential neighborhoods and the Five Mile Shopping Center commercial area north of Francis Avenue. The route would follow the Country Homes Boulevard route which passes through single-family neighborhoods, and pasta city park. Building along the Five Mile Prairie bluff would impact an area designated by the city as environmentally sensitive, i.e. basalt stacks and Latah formation.

This route alternative is west of the travel zones from which most of existing traffic is now generated. Projections of future traffic indicate that most of the new trips will be generated in the eastern portion of the city's north side and the eastern metropolitan area. Thus, this route is too far west to effectively solve existing and future congestion problems.

### **Maple/Ash**

Maple/Ash is bracketed by the Browne's Addition and West Riverside National Historic Districts and properties individually listed in the National Register of Historic Places (NRHP). The Maple Bridge already crosses and divides the Peaceful Valley National Historic District. To maintain capacity, another bridge (or widening) would be required. This would further impact the historic districts and individual historic structures.

The entire route between I-90 and Francis Avenue (approximately 4.4 miles) contains businesses and single-family residences of equal residential density to the Hamilton/Perry route. Three grade schools, a high school, and two public parks along this segment would also be impacted by noise. Five Mile Shopping Center is immediately north of Francis Avenue and peripheral retail and office buildings would be removed. Single-family residences would be removed and impacted along any potential route between Francis and a future location for an interchange with SR-395. Although selection of a route along the lower side of Five Mile Prairie bluff would have lower potential for impact on residences, excavation into Latah formation and basalt stacks may affect slope stability and visual quality.

Since the most serious capacity deficiencies on Spokane's north side are east of Washington Street and traffic growth is expected to grow more in the east metropolitan area than in the west, projections indicate a freeway in the vicinity of Maple/Ash would provide only modest relief of traffic congestion. Thus long term benefits would be limited.

### **North Division**

North Division is the city's primary north/south commercial arterial. Its entire length between I-90 and the North Division Y (approximately 6.3 miles) is lined with commercial uses. Division provides a route for travelers passing through the city as well as local and regional users of local businesses. It is also a primary route to the city's central business expansion. A possible alternative that would retain Division Street's capacity would involve a decked corridor over the existing

facility. This would, however, limit local access and require removal of major businesses at interchange locations. Costs would also be significant.

If the route was offset a block east or west of Division, a strip of businesses and residences approximately 6.3 miles long would be removed. With an alignment west of Division, three elementary schools would be within 300 feet (one adjacent or across), a city park, a city play field, and a cemetery would be crossed. An east-side alignment, to avoid two major shopping centers and a hospital, would have to be routed through the Logan and North Hill Neighborhoods as well as new single-family and multifamily residences between Francis Avenue and the North Division Y. One middle school, an elementary school, and one city park would be adjacent to the potential route.

## **Argonne Road**

Even though growth in the eastern north side of the city and the eastern metropolitan area is expected to have the greatest impact on traffic generation, Argonne Road is too far east to relieve the traffic problems between the Spokane central business district and north side. A route alternative west of existing Argonne Road would remove single-family residences, a potential National Register property and cross an elementary school play field over approximately 1.3 miles from I-90 to the Spokane River. On the north side of the river, the residential density is lower and houses become sporadic north of Wellesley Avenue. At this point, the route would ascend to the north wall of the Spokane Valley. The route would cross large acreage tracts and prime farmland to an interchange with Market Street. While this route would impact the smallest number of businesses and residences, it would also have the greatest potential for inducing growth in the rural agricultural area northeast of Spokane.

## **Alternatives Evaluated**

The 1988 Long Term Improvements Study evaluated three route alternatives, of various potential between Division and Havana, using both objective and subjective factors. The criteria considered in the evaluation included mitigation of traffic congestion and feasibility of construction. Feasibility of construction considered community support and ability to fund the project.

A major aspect of the study was the consideration of existing residential units, businesses, schools, parks and other public and semi-public facilities that would be impacted by the route alternatives. This provided a view of how the public would be impacted as well as what the public might accept. The study also considered costs to develop and relief of traffic congestion. The study did not, however, provide an evaluation based on all relevant environmental factors.

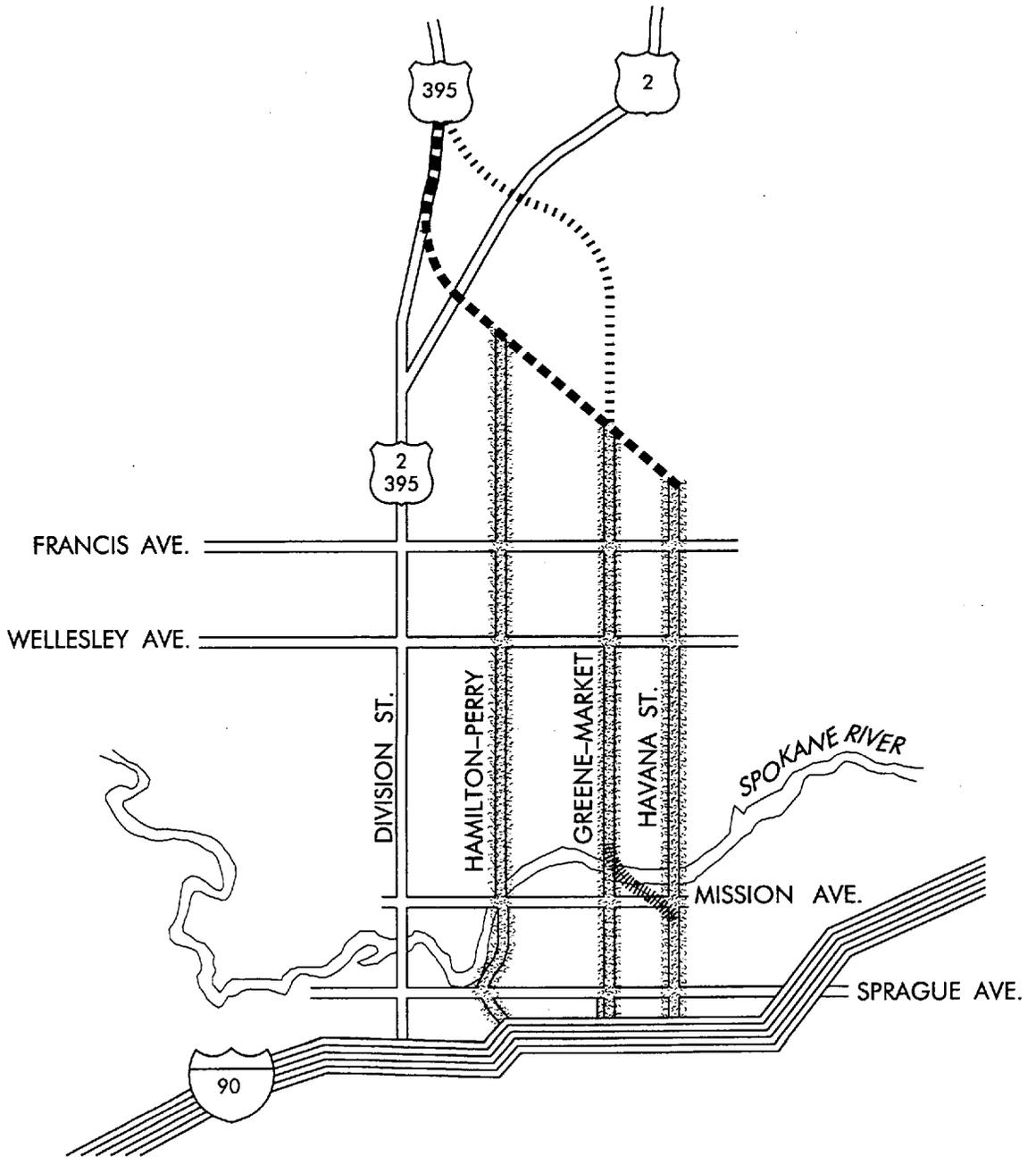
The study concluded that the Market/Greene route was the best solution to the north/south traffic problem. Both the Spokane City Council and the Spokane County Board of Commissioners adopted resolutions that the Market/Greene route would significantly aid in mitigating the Spokane area north/south traffic problems and that it was the preferred alternative. Indeed, the Hillyard Neighborhood Design Plan adopted by City Council in December, 1985 identifies a corridor immediately east of Market a major Limited Access Route.

# LEGEND

-  Proposed Study Corridors
-  Northerly Option
-  Southerly Option
-  River Crossover



NOT  
TO  
SCALE



**1988 Long Term Improvement Study Alternatives**  
**Figure C-1**

## Evaluation Matrices

The following matrix of “Route Alternatives” was developed to provide a broad overview comparison of the environmental impacts of the three proposed route alternatives to assist in the scoping process for the Environmental Impact Statement. The matrix includes 29 categories that will be considered for evaluation in an environmental impact statement of the selected alternatives. This matrix can be used to provide a preliminary comparative review of the alternatives. The assignment of numerical values to degree of impact to arrive at a computed ranking of alternatives should be avoided. Not all categories are of equal importance to individuals, the community, or in meeting long term transportation goals. Indeed, many interests conflict.

However, the evaluation of direct impacts to the community versus indirect impacts, such as costs of construction, would place greater importance on such factors such as removal of homes and businesses, disruptions to public services such as schools, parks and fire protection, and noise impacts to people along the corridor. These are categories in which people are directly impacted. Furthermore, these categories generate the greatest controversy, and subsequently affect the political support of the project.

Factors such as soils, topography, water quality, and flood plains, for example, are more generally neutral in community concern and thus would not carry as much weight in that aspect of decision-making process.

### ***Construction of the Matrix***

If all three route alternatives produced similar impacts, these impacts were not noted on the matrix. This is especially common along the western portion of the power line right-of-way, which all three routes eventually follow near their northern terminus. The following are examples of similar impacts.

- Ground water quality
- Intermittent stream along Hwy. 395
- Most attributes along power line right-of-way. Note: some impacts may be intensified by increased distances required along the right-of-way i.e., Havana.
- Subsequent property value increases or decreases near the freeway
- Crossing the Spokane River

## Assumptions

Several assumptions were made in performing calculations to illustrate relative differences between each alignment.

These assumptions were not meant to provide a basis of producing exact values.

## **Property Values**

Assumed values were obtained for properties located in sample blocks along each route alternative. These sample blocks were chosen to represent residential, commercial and industrial uses, and the values within the blocks were averaged. Using an aerial photograph, the mileage of alignment was measured through each type of use and converted to a square foot cost. Because no accurate information existed on the amount of land required for interchanges, the route alternative right-of-way width used was 300 feet. Though such a right-of-way adjustment seems excessive, calculations using 300 feet of right-of-way produced a total acreage figure 80 acres less than the Department of Transportation figures in the 1988 North Spokane transportation study.

The same study also supplied figures for a total cost of acquiring the land and structures in the path of each alignment. However, all calculations were based upon a \$80,000 unit cost including relocation cost, for each residence and a \$175,000 per acre cost for both urban and rural land acquisition. Our sampling found an average assessed value of about \$40,000. Cost of commercial and industrial business acquisition was estimated to be \$100 per square foot and residential land to be \$4 per square foot.

## **Tax Revenues**

Using the sample data from the property value section, various mileage rates were applied to sections of the freeway according to their location in the city, county, and school district. This calculation also assumes that all property in the vicinity of the freeway neither loses nor gains value.

While final figures are presented, they are not meant to reflect an accurate measure of the amount of tax revenue lost due to the removal of the properties from the tax roles. They are meant only to provide a comparison between alignments.

## **Asbestos**

The probability of encountering asbestos within residential, business, and industrial buildings within the defined corridors is quite high. The construction era for most of the buildings reviewed ranges from the early 1900's to the late 1960's. During this era, the use of asbestos was widespread. Asbestos frequently is contained in materials ranging from roof shingles, siding and deck under sheeting, to blown-on ceiling coatings and, usually and predominantly, in pipe wrapping for central furnace pipe leads. Homes in the 1940's-1950's frequently have floor tile, siding and roof shingles containing asbestos. Homes up to about 1978 sometimes have "popcorn" blown ceilings which can contain asbestos.

Disposal of most asbestos building debris such as siding, floor tile and roof shingles, can be accomplished at the local landfill. However, once friable, such as removed pipe wrap, spray on ceilings, and furnace wrapping, the asbestos must be double wrapped, handled in a prescribed manner, and disposed in a designed site-currently the Mica landfill.

R O U T E		A L T E R N A T I V E S	
CATEGORY	HAMILTON/PERRY	MARKET/GREENE	HAVANA
Air Quality	<ul style="list-style-type: none"> <li>Vicinity of monitoring sites at Hamilton and Mission, and Hamilton and North Foothills Drive exceed air quality standards with greatest frequency throughout Spokane County. Hamilton and Mission site exceeded CO standards 6 times over a 3-month period from 1988-1989. Average annual geometric mean for suspended particulates is 22 ug/m3 more than state standards.</li> <li>Modeled PM10 annual arithmetic mean at 51-52 ug/m3 (state standard is 50 ug/m3).</li> <li>Operation of freeway should not affect overall particulate problems during summer.</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring site at Greene and Mission has a 3.1 ppm average annual geometric mean of CO; monitoring site at Market and Euclid has as 4.1 ppm average annual geometric mean of CO (state standard is 9.0 ppm).</li> <li>Monitoring site at Ferry and Freya has a 116 ug/m3 average annual geometric mean for suspended particulates (state standard is 60 ug/m3). Monitoring site at Ferry and Freya has an average annual arithmetic mean for PM10 of 52 ug/m3 (state standard is 50 ug/m3).</li> <li>Operation of freeway should not affect overall particulate problems during summer.</li> </ul>	<ul style="list-style-type: none"> <li>Unpaved streets contribute to Total Suspended Particulates.</li> <li>Operation of freeway should not affect overall particulate problems during summer.</li> <li>During winter and N.E. wind flows, toe slopes of Beacon Hill and Little Baldy are shielded by the hills, thus limiting dispersal of contaminants. Between I-90 and hills eastern-most corridor slightly better than Hamilton and Market</li> <li>No monitoring stations are in the Havana corridor, but similar conditions to Ferry &amp; Freya station.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>Sensitive receptors:</li> <li>1 retirement home.</li> <li>No hospitals.</li> <li>4 schools within 1,200' of ROW edge: Gonzaga Prep - 400', Rogers H.S. - 1,000', Whitman elementary - 1,200', Stevens elementary - 400'.</li> <li>4 churches within 1,200' of ROW edge.</li> <li>1,590 single-family houses and 15 multi-family units within 600' of ROW edge.</li> <li>No libraries.</li> <li>4 parks/school playgrounds within 1,200' of ROW edge.</li> </ul>	<ul style="list-style-type: none"> <li>Sensitive receptors:</li> <li>1 retirement home (1 block west of Market at Wellesley).</li> <li>No hospitals.</li> <li>6 schools: Spokane Community College (SCC) - 200', Bemis elementary 3 blocks west, Regal elementary 2 blocks west, Shaw JHS 3 blocks west, Libby middle school - 400', Cooper elementary - 900' within ROW edge.</li> <li>741 single-family houses, 10 multi-family units within 600' of ROW edge.</li> <li>8 churches within 1,200' of ROW edge.</li> <li>1 library within 600' of ROW edge.</li> <li>Parks/recreation within 1,200' of ROW edge: Chief Garry park, Playfair race track, school playground, Harmon park, Hillyard pool.</li> <li>Alignment provides greatest reduction in traffic congestion.</li> <li>Railroad right-of-way designated as a bicycle route in Hillyard Neighborhood Plan.</li> <li>Alignment is consistent with the traffic circulation element of the Hillyard and Chief Garry Neighborhood Plans, and City Arterial Street Plan.</li> <li>9 interchanges.</li> </ul>	<ul style="list-style-type: none"> <li>Sensitive receptors:</li> <li>No hospitals.</li> <li>No retirement homes.</li> <li>1 school: Cooper elementary, 3 blocks west.</li> <li>No churches within 1,200' of ROW edge.</li> <li>No libraries within 1,200' of ROW edge.</li> <li>Parks/recreation within 1,200' of ROW edge: Spokane County Fairgrounds - adjacent, Minnehaha Park - adjacent, Esmerelda Golf Course - adjacent.</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>Redirects the most traffic to I-90 of the 3 alignments.</li> <li>North Center and Perry designated as bicycle routes.</li> <li>Chief Garry Park Neighborhood Plan designates south bank of river between Trent and Mission as Parkway/minor arterial.</li> <li>9 interchanges.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment provides greatest reduction in traffic congestion.</li> <li>Railroad right-of-way designated as a bicycle route in Hillyard Neighborhood Plan.</li> <li>Alignment is consistent with the traffic circulation element of the Hillyard and Chief Garry Neighborhood Plans, and City Arterial Street Plan.</li> <li>9 interchanges.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment is too far from the central corridor of north/south traffic to effectively relieve congestion. To make the alignment effective would require substantial improvements in the level of service for east/west arterials.</li> <li>8 interchanges.</li> </ul>

CATEGORY	HAMILTON/PERRY	MARKET/GREENE	HAVANA
<p><b>4(f) &amp; 6(f) Sites, i.e. Historic Sites, Parks and Recreation Sites</b></p>	<ul style="list-style-type: none"> <li>• Crosses over Tuffy's Trail.</li> <li>• Crosses over Centennial Trail.</li> <li>• City parkland along Spokane River north of Mission.</li> <li>• Gonzaga Prep playfield partially federally funded.</li> <li>• 2 potentially historic houses (noise &amp; aesthetic impacts).</li> </ul>	<ul style="list-style-type: none"> <li>• Crosses over Tuffy's Trail.</li> <li>• Crosses over Centennial Trail.</li> <li>• Hillyard business district (noise impacts on potential historic district).</li> </ul>	<ul style="list-style-type: none"> <li>• Crosses over Tuffy's Trail.</li> <li>• Crosses over Centennial Trail.</li> <li>• Minnehaha Park, Esmerelda Golf Course (visual and noise).</li> <li>• Mt. St. Michael (noise and aesthetic impacts).</li> <li>• House at S.E. corner of Frederick &amp; Havana (possible removal).</li> <li>• Cross over immediately after crossing river to Market could avoid impacts to all but trails along river.</li> </ul>
<p><b>Public Services</b></p>	<p><b>Public Facilities:</b> 44 sewer lines (6 main lines), and 67 water mains cross the alignment. 36 of the water pipes are lateral feeders and need to be evaluated for possible connection.</p> <p><b>Schools:</b> 4 attendance boundaries will be divided, with walking access to Whitman being the most severely impacted. Walking routes within 2 miles of school's west side may need to be revised. More bussing may be required due to the "hazardous area" safety guidelines set by District #81.</p> <p><b>Fire:</b> Station proposed in vicinity of Hamilton and N. Foothills Dr. East/west arterials are used and response time should not be impacted. Access points to the alignment will be an important consideration.</p> <p><b>Transit:</b> Crosstown route #15 via Wellesley &amp; Market a priority route with 950 passengers per day. Possible north/south express route could increase ridership. Changes in existing routes may be necessary.</p>	<p><b>Public Facilities:</b> 36 sewer lines (3 main lines) and 51 water mains cross the alignment. 1 of the water pipes is a lateral feeder line and needs to be evaluated for possible connection.</p> <p><b>Schools:</b> 3 attendance boundaries will be impacted on the fringes in low density areas. Cooper school may have to revise walking routes on its western edge. Market already acts as a barrier and bussing is in place. More bussing may be required due to the "hazardous area" safety guidelines set by District #81.</p> <p><b>Fire:</b> Fire station #8 proposed to relocate east of SCC and Rebecca St. East/west arterials are primarily used and response time should not be impacted. Access points to the alignment will be an important consideration.</p> <p><b>Transit:</b> SCC parking lot is a transit center, construction could affect ridership. Crosstown route #15 via Wellesley &amp; Market a priority route with 950 passengers per day. Possible north/south express route could increase ridership. Changes in existing routes may be necessary.</p>	<p><b>Public Facilities:</b> 30 sewer lines (1 main line) and 35 water mains cross the alignment. 28 of the water pipes are lateral feeder lines and need to be evaluated for possible connection.</p> <p><b>Schools:</b> 3 attendance boundaries are impacted on the fringes in low density areas. Walking routes within 2 miles of the school's east side may have to be revised. More bussing may be required due to the "hazardous area" safety guidelines set by District #81.</p> <p><b>Fire:</b> Fire Station #8 relocation closer to alignment at Rebecca &amp; Mission. East/west arterials are primarily used and response time should not be impacted. Traffic diverted from arterial may decrease response time. Access points to the alignment will be an important consideration.</p> <p><b>Transit:</b> Crosstown route #15 via Wellesley &amp; Market a priority route with 950 passengers per day. Possible north/south express route could increase ridership. Changes in existing routes may be necessary.</p>