

**1. WEST TRANSITWAY EXTENSION FROM BAYSHORE STATION TO WEST OF MOODIE DRIVE: COMPARATIVE REVIEW OF AN ALTERNATIVE STATION LOCATION WEST OF MOODIE DRIVE**

**PROLONGEMENT DU TRONÇON OUEST DU TRANSITWAY DEPUIS LA STATION BAYSHORE JUSQU'À L'OUEST DE LA PROMENADE MOODIE – EXAMEN COMPARATIF ENTRE LES PROJETS DE STATION À L'EST ET À L'OUEST DE LA PROMENADE MOODIE**

**COMMITTEE RECOMMENDATION**

**That Council receive this report for information.**

**RECOMMANDATION DU COMITÉ**

**Que le Conseil prenne connaissance de ce rapport à titre information.**

**DOCUMENTATION**

1. Transportation Committee report dated 15 November 2011 (ACS2011-ICS-INF-0015)
2. Extract of draft Minute, Transportation Committee meeting of 7 December 2011

**Report to/Rapport au :**

**Transportation Committee  
Comité des transports**

**and Council / et au Conseil**

**15 November 2011 / le 15 novembre 2011**

**Submitted by/Soumis par : Nancy Schepers, Deputy City Manager/Directrice municipale adjointe, Infrastructure Services and Community Sustainability/Services d'infrastructure et Viabilité des collectivités**

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BAY / BAIE (7)

Ref N°: ACS2011-ICS-INF-0015

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**SUBJECT: WEST TRANSITWAY EXTENSION FROM BAYSHORE STATION TO WEST OF MOODIE DRIVE: COMPARATIVE REVIEW OF AN ALTERNATIVE STATION LOCATION WEST OF MOODIE DRIVE**

**OBJET : PROLONGEMENT DU TRONÇON OUEST DU TRANSITWAY DEPUIS LA STATION BAYSHORE JUSQU'À L'OUEST DE LA PROMENADE MOODIE – EXAMEN COMPARATIF ENTRE LES PROJETS DE STATION À L'EST ET À L'OUEST DE LA PROMENADE MOODIE**

**REPORT RECOMMENDATION**

**That Transportation Committee recommend that Council receive this report for information.**

**RECOMMANDATION DU RAPPORT**

**Que le Comité des transports recommande que le Conseil prenne connaissance de ce rapport à titre information.**

**EXECUTIVE SUMMARY**

**Assumptions and Analysis**

*Background*

On 8 September 2010, a Preliminary Recommended Plan for the West Transitway Extension from Bayshore Station to West of Moodie Drive, including a station east of the Moodie Drive

interchange, received Council approval and staff were directed to initiate the Transit Project Assessment Process based on this plan. Shortly thereafter, in October 2010, the City was made aware that Public Works and Government Services Canada (PWGSC) had purchased the former Nortel Carling campus with the intention of creating a federal employment node with a potential build out scenario of 10,000 employees by 2013 and up to 15,000 employees by 2031. Responding to traffic related concerns expressed by members of the local community, on 27 April 2011, City Council carried the following motion;

*THEREFORE BE IT RESOLVED THAT Recommendation 4 be replaced with the following: "That, prior to initiating the Transit Project Assessment Process, the location of the proposed Corkstown/Moodie area station be brought back to the Transportation Committee and Council for consideration."*

This report provides a comparative review of the Council approved station located east of Moodie Drive, with an alternate station concept located west of Moodie Drive.

### *Discussion*

In accordance with the process used to identify the original Recommended Plan and in accordance with Environmental Assessment principles and processes, the advantages and disadvantages of the two station location alternatives (East Station Alternative and West Station Alternative) were evaluated based on an assessment of net environmental effects. This assessment considered effects in three general factor areas; natural environment, social/cultural environment and technical considerations. A summary of this review follows.

From a natural environment perspective, primary footprint impacts are associated with the Transitway alignment and are therefore common to both station location alternatives. Both alternatives require the removal of cultural meadow vegetation and the minor realignment of Stillwater Creek. As the West Station Alternative minimizes encroachment on vegetation that is contiguous with the Stillwater Creek Valley, it is given slight preference for this factor area. However, with the introduction of design measures to mitigate direct and indirect effects, and due to the relatively low sensitivity of potentially affected areas, neither station location is expected to result in significant impacts to the natural environment.

From a social/cultural perspective, the East Station Alternative is preferred for both safety and accessibility reasons. The proposed station is fully integrated with existing multi-use pathway infrastructure, provides the greatest opportunity for enhanced active transportation connections and provides an enhanced sense of security through increased station activity and visibility. The East Station Alternative is located within walking distance from adjacent residential and employment lands. As it is located more than 750m from the nearest residence, the West Station Alternative minimizes potential for minor noise/vibration impacts, but also limits accessibility and increases the sense of isolation for waiting passengers. The noise/vibration analysis completed for the East Station Alternative indicates that potential impacts fall well below MOE standards (noise) and typical human annoyance thresholds (vibration).



From a technical/transportation perspective, the East Station Alternative is strongly preferred as it maximizes operational efficiency and accessibility to transit users. From an operational perspective, until the Transitway is extended westerly from Moodie Drive through to Kanata (not anticipated within the current planning horizon – 2031), the West Station Alternative will require every eastbound bus to travel an additional 1.5 km to access the station. In addition to

generating increased vehicle emissions, this detour would result in a 3.5 minute increase in eastbound travel times when compared to the East Station Alternative. The 3.5 minute detour would increase annual operating costs by approximately \$525,000 based on current bus volumes (which could be expected to increase over the course of the planning horizon to \$810,000 by 2031). In addition to the detour, the West Station Alternative also requires all eastbound buses to make a left turn movement across Moodie Drive onto Corkstown Road, further reducing service reliability during the morning peak period.

As noted above, the federal government has expressed intent to create a federal employment node at the former Nortel Carling site. The Transportation Demand Management (TDM) study which is expected to be completed to accommodate this intensified employment node is proponent driven (initiated by PWGSC) and would be supported by the City of Ottawa Transportation Planning Branch. In terms of servicing this site, under existing conditions, both station alternatives require two left turn movements across Moodie Drive during peak traffic periods. If warranted, additional accesses could be added for each station alternative to remove one of these left turn movements. From an overall transit service perspective, providing efficient and reliable rapid transit (Transitway) service should be a priority. By minimizing travel distance and avoiding left turn movements for mainline Transitway buses, the East Station alternative is strongly preferred.

*Conclusion*

As outlined in Figure 1 below, the overall impacts associated with the East Station Alternative are considered minor, and the benefits to transit operations and users are considerable. The East Station Alternative is preferred over the West Station Alternative from a safety and accessibility perspective as the proposed station is fully integrated with the existing multi-use pathway infrastructure, provides the greatest opportunity for enhanced active transportation connections, and provides an enhanced sense of security through increased activity and visibility. It is therefore recommended that the Council-approved station east of Moodie Drive be retained.

<p style="text-align: center;"><b>East Station Alternative</b></p> 	<p style="text-align: center;"><b>West Station Alternative</b></p> 
<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Reduces overall travel times for all eastbound transit</li> </ul>	<p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• Minimizes removal of cultural meadow vegetation</li> </ul>

<p>services from Kanata by 3.5 minutes when compared to the West Station Alternative (including associated reduction in operating costs and emissions).</p> <ul style="list-style-type: none"> <li>Increases service reliability by avoiding left turn movements for Transitway buses.</li> <li>Fully integrated with the existing multi-use pathway network and promotes new multi-modal connections.</li> <li>Accessibility and visibility from adjacent employment and residential lands will promote station activity and create an enhanced sense of security for transit users when compared to the West Station Alternative.</li> </ul>	<p>that is contiguous with the Stillwater Creek Valley</p> <ul style="list-style-type: none"> <li>Locates the station 750m further from residential properties, thereby reducing potential for minor noise/vibration impacts. Neither station alternative results in noise/vibration impacts that exceed municipal or provincial guidelines/ limits.</li> </ul>
<p><b>Disadvantages:</b></p> <ul style="list-style-type: none"> <li>Requires removal of additional cultural meadow vegetation that is contiguous with the Stillwater Creek Valley. The ecological significance of this meadow area is considered low as it is isolated and characterized by low botanical diversity and a high proportion of non-native species.</li> <li>Locates the station approximately 250m from the nearest residence. However, the noise assessment concluded that the addition of a station at this location will have a negligible influence on local sound levels which fall below the MOE limits for stationary sources of noise.</li> <li>The addition of a station will generate new ground vibrations, however, given the amplitude of decay observed between measured locations, the continuous surficial geology in the area, and the distance from the nearest residence, ground vibration levels of 0.1- 0.2 mm/s are expected. These levels fall well below the typical human annoyance threshold of 1.0 mm/s.</li> </ul>	<p><b>Disadvantages:</b></p> <ul style="list-style-type: none"> <li>Requires all eastbound buses to travel an additional 1.5 km, adding 3.5 minutes to eastbound travel times, increasing vehicle emissions and escalating annual operating costs by \$525,000.</li> <li>Requires all eastbound buses to make a left turn movement across Moodie Drive during the morning peak, thereby reducing service reliability.</li> <li>Isolated location minimizes accessibility and sense of security. The station is not visible from, or within walking distance to, any residential or employment lands.</li> </ul>
<p><i>Recommended</i></p>	<p><i>Not Recommended</i></p>

**Figure 1: Decision Table**

**Financial Implications**

The West Station Alternative will require every eastbound bus to travel an additional 1.5 km to access the station. This detour would generate increased vehicle emissions and would increase OC Transpo annual operating costs by approximately \$525,000 per year based on current bus volumes (which could be expected to increase over the course of the planning horizon to \$810,000 per year by 2031). In order to maintain service frequency, additional buses would be required in service resulting in increased capital costs of approximately \$2.8M based on current volumes up to approximately \$5M by 2031.

**Public Consultation/Input**

Recognizing the importance of stakeholder participation in the planning process, a comprehensive consultation program is being undertaken to ensure that all concerns and issues

are identified and given appropriate consideration early and throughout the West Transitway Extension planning and environmental assessment study. Meetings with the NCC and the executive committee of the Crystal Beach/Lakeview Community Association have been held to discuss the findings of this report (3 November 2011). As part of the Transit Assessment Process, a Public Open House will be held to present the final Recommended Plan.

## RÉSUMÉ

### **Hypothèses et analyse :**

#### *Contexte*

Le 8 septembre 2010, le Conseil a approuvé le plan recommandé préliminaire pour le prolongement du tronçon ouest du Transitway, depuis la station Bayshore jusqu'à l'ouest de la promenade Moodie, incluant une station à l'est de l'échangeur de la promenade Moodie. Le Conseil avait alors demandé au personnel d'amorcer le processus d'évaluation des projets de transport en commun fondé sur ce plan. Peu après, en octobre 2010, la Ville a été informée du fait que Travaux publics et Services gouvernementaux Canada (TPSGC) avait acheté l'ancien campus Nortel Carling dans le but de créer un grand centre d'emploi fédéral avec une possibilité de 10 000 employés d'ici 2013 et jusqu'à 15 000 employés d'ici 2031. En réponse aux préoccupations relatives à la circulation exprimées par des membres de la collectivité locale, le 27 avril 2011, le Conseil municipal a adopté la motion suivante :

*PAR CONSÉQUENT, IL EST RÉSOLU QUE la recommandation 4 sera remplacée par la suivante : « Avant d'entreprendre le processus d'évaluation des projets de transport en commun, l'emplacement proposé de la station pour le secteur Corkstown/Moodie doit être soumis au Comité des transports et au Conseil pour examen ».*

Le présent rapport présente les conclusions de l'examen comparatif entre le projet approuvé de station située à l'est de la promenade Moodie et un autre concept où la station serait située à l'ouest de la promenade Moodie.

#### *Discussion*

Conformément au processus utilisé pour identifier le plan recommandé initial et conformément aux principes et processus régissant une évaluation environnementale, les avantages et les désavantages des deux solutions d'emplacements pour la station (solutions à l'est de la station et solution à l'ouest de la station) ont été évalués en fonction de l'évaluation des effets nets sur l'environnement. Cette évaluation a examiné les effets dans trois catégories de facteurs généraux soit environnement naturel, environnement social/culturel et considérations techniques. Voici le résumé de cet examen.

Du point de vue de l'environnement naturel, le tracé du Transitway a des conséquences sur l'empreinte écologique primaire et ces conséquences sont communes aux deux emplacements. Les deux solutions exigent l'enlèvement de végétation de baissière et une modification mineure du tracé du ruisseau Stillwater. Comme la solution de la station à l'ouest minimise l'empiètement sur la végétation qui pousse sur les terres adjacentes à la vallée du ruisseau Stillwater, cette solution serait privilégiée pour ce qui est de ce facteur. Toutefois, avec l'utilisation de mesures

visant à atténuer les effets directs et indirects et en raison de la faible sensibilité des secteurs potentiellement touchés, aucune des deux solutions n'aurait d'incidence importante sur l'environnement naturel.

Du point de vue social et culturel, on privilégie l'emplacement de la station à l'est pour l'aspect sécurité et accessibilité. La station proposée est entièrement intégrée à l'infrastructure de sentier polyvalent actuel, elle offre le plus de possibilités pour des liaisons de transport actif amélioré et procure un meilleur sens de sécurité en raison d'une plus grande activité et visibilité à la station. La solution de la station à l'est se trouve à distance de marche des secteurs résidentiels et d'emploi adjacents. Comme elle est située à plus de 750 m de la maison la plus proche, la solution de la station à l'ouest minimise la possibilité de répercussions mineures concernant le bruit et les vibrations, mais elle limite l'accessibilité et augmente le sentiment d'isolement pour les passagers qui attendent. L'analyse bruit/vibration effectuée pour la solution de la station à l'est indique que les impacts potentiels sont bien en deçà des normes du ministère de l'Environnement concernant le bruit et les indices de gêne typiques pour l'humain (vibration).



Du point de vue technique et de celui du transport, on privilégie forcément la solution de la station à l'est, car elle maximise l'efficacité et l'accessibilité pour les usagers du transport en commun. Du point de vue opérationnel, d'ici le prolongement du Transitway vers l'ouest de la promenade Moodie jusqu'à Kanata (non prévu dans l'horizon de planification actuel – 2031), la solution de la station à l'ouest exigera un trajet supplémentaire de 1,5 km pour tous les autobus qui se déplacent vers l'est afin d'accéder à la station. Ce détour ferait augmenter les émissions des véhicules et se traduirait par une augmentation de 3,5 minutes en temps de déplacement vers l'est en comparaison avec la solution de la station à l'est. Ce détour de 3,5 minutes représente une augmentation d'environ 525,000\$ des coûts d'exploitation annuels, en fonction des volumes d'autobus actuels (qui devraient augmenter pendant la période de l'horizon de planification pour dépasser les 810,000\$ d'ici 2031). En plus d'occasionner un détour, la solution de la station à l'ouest exige également que tous les autobus se déplaçant vers l'est fassent un virage à gauche pour traverser la promenade Moodie, vers le chemin Corkstown, ce qui aurait pour effet de réduire la fiabilité du service pendant la période de pointe du matin.

Comme il a été mentionné ci-dessus, le gouvernement fédéral a exprimé son intention de créer un centre d'emplois à l'ancien emplacement du campus Nortel Carling. L'étude sur la gestion de la demande en transport (GDT) qui devra être effectuée relativement à l'intensification découlant de ce centre d'emploi sera menée par le promoteur (TPSCG) et appuyée par la Direction de la planification stratégique des transports de la Ville d'Ottawa. Sur le plan de la gestion de la circulation, selon la situation actuelle, les deux solutions requièrent deux virages vers la gauche sur la promenade Moodie aux heures de pointe. S'il y a une exigence en ce sens, d'autres accès pourraient être ajoutés pour chacune des solutions afin d'éliminer un de ces virages à gauche. Du point de vue général du transport en commun, on doit prioriser un service (Transitway) de transport en commun rapide et efficace. Parce qu'elle minimise la distance de déplacement et évite les virages à gauche aux autobus qui font des circuits principaux du Transitway, la solution de la station à l'est est grandement privilégiée.

### *Conclusion*

La description de la figure 1 ci-dessous explique clairement que les impacts globaux de la solution de la station à l'est sont considérés comme mineurs, tandis que les avantages pour les opérations du transport en commun et les usagers sont énormes. Il est donc recommandé que la

solution approuvée par le Conseil d'implanter la station à l'est de la promenade Moodie soit retenue.

<p style="text-align: center;"><i>Solution de la station à l'est</i></p> 	<p style="text-align: center;"><i>Solution de la station à l'ouest</i></p> 
<p><b>Avantages :</b></p> <ul style="list-style-type: none"> <li>• Réduit de 3,5 minutes le temps de déplacement global pour tous les services de transport en commun vers l'est de Kanata comparativement à la solution de la station à l'Ouest (y compris la réduction associée des fais d'exploitation et des émissions).</li> <li>• Augmente la fiabilité du service en permettant d'éviter le virage à gauche pour les autobus du Transitway.</li> <li>• Est entièrement intégrée au réseau de sentiers polyvalents et fait la promotion de nouvelles liaisons multi-modales.</li> <li>• L'accessibilité et la visibilité des terrains réservés à l'emploi et résidentiels adjacents favorisera l'activité dans la station et créera un meilleur sentiment de sécurité par rapport à l'autre solution à l'ouest.</li> </ul>	<p><b>Avantages :</b></p> <ul style="list-style-type: none"> <li>• Minimise l'enlèvement de la végétation baissière dans les terrains adjacents à la vallée du ruisseau Stillwater.</li> <li>• Situe la station à 750 m de distance des propriétés résidentielles, réduisant ainsi le potentiel d'impacts mineurs liés aux bruits/vibrations. Aucune des solutions avancées n'a des conséquences au chapitre du bruit et des vibrations qui dépassent les directives et les limites municipales ou provinciales.</li> </ul>
<p><b>Désavantages :</b></p> <ul style="list-style-type: none"> <li>• Nécessite l'enlèvement de la végétation baissière dans les terrains adjacents à la vallée du ruisseau Stillwater. L'importance écologique de ce pré est considérée comme faible, car il est isolé et caractérisé par une faible diversité botanique et une forte proportion d'espèces introduites.</li> <li>• Situe la station à environ 250 m de la maison la plus proche. Cependant, l'évaluation du bruit a conclu que l'ajout d'une station à cet emplacement aura une incidence négligeable sur les niveaux sonores locaux qui sont bien inférieurs aux limites établies par le ministère de l'Environnement pour des sources fixes de bruit.</li> </ul>	<p><b>Désavantages :</b></p> <ul style="list-style-type: none"> <li>• Exige que tous les autobus se déplaçant vers l'est fassent 1,5 km de plus, représentant un ajout de 3,5 minutes au temps du trajet vers l'est, ce qui augmente les émissions des véhicules et se traduit par une hausse annuelle des coûts de 525,000\$.</li> <li>• Exige que tous les autobus se déplaçant vers l'est fassent un virage à gauche sur la promenade Moodie pendant l'heure de point du matin, réduisant la fiabilité du service.</li> <li>• L'isolement de l'emplacement réduit l'accessibilité et le sentiment de sécurité. La station n'est pas visible des terrains résidentiels ou réservés à l'emploi et ne se trouve pas non plus à distance de</li> </ul>



<ul style="list-style-type: none"><li>L'ajout d'une station produira de nouvelles vibrations terrestres, cependant étant donné l'amplitude de la décroissance observée entre les emplacements mesurés, la géologie des dépôts meubles continus dans la région et la distance de la maison la plus proche, on s'attend à des niveaux de vibration terrestre de 0,1-0,2 mm/s. De tels niveaux sont inférieurs aux indices de gêne typiques pour l'humain de 1,0 mm/s.</li></ul>	marche de ces terrains.
<i>Recommandée</i>	<i>Non recommandée</i>

Figure 1 : Tableau de décision –

### Répercussions financières

La solution de la station à l'ouest exige que chaque autobus se déplaçant vers l'est fasse 1,5 km de plus pour accéder à la station. Ce détour ferait augmenter les émissions des véhicules et ferait augmenter les coûts d'exploitation annuels d'OC Transpo d'environ 525,000\$, en fonction des volumes d'autobus actuels (qui devraient augmenter pendant la période de l'horizon de planification pour dépasser 810,000\$ d'ici 2031). Afin de maintenir la fréquence de service, des autobus supplémentaires devraient être mis en service; il en résulterait une augmentation des dépenses en immobilisations d'environ 2,8 M\$ en fonction des volumes actuels et jusqu'à d'environ 5,0 \$M d'ici 2031

### Consultation/commentaires publics :

Compte tenu de l'importance de la participation des divers intervenants au processus de planification, un programme de consultation complet a été entrepris afin que toutes les préoccupations et que tous les enjeux soient ciblés et qu'ils soient examinés dès le début et tout au long de l'étude d'évaluation environnementale et de la planification du prolongement du tronçon ouest du Transitway. Des rencontres avec des représentants de la CCN et le comité exécutif de la Crystal Beach/Lakeview Community Association ont eu lieu afin de parler des conclusions de ce rapport (3 novembre 2011). Dans le cadre du processus d'évaluation du projet de transport en commun, une séance portes ouvertes aura lieu pour présenter le plan recommandé final.

## BACKGROUND

### Introduction

The purpose of this report is to provide a comparative review of the proposed West Transitway Extension station located east of Moodie Drive (identified within the Council-approved Preliminary Recommended Plan, September 2010), with an alternate station concept located west of Moodie Drive.

### Project Background

The full build out of the West Transitway has been subject to past studies led by the City of Ottawa and the former Regional Municipality of Ottawa-Carleton (RMOC), and has been identified as a strategic investment to help the City achieve its target 30% transit modal split

objective. As identified in the 2008 Transportation Master Plan, this project is needed to address existing operational deficiencies and improve transit service reliability between downtown and the west urban community by removing the requirement to operate transit service in mixed traffic on Highway 417.

The provincial regulation for transit environmental assessment studies (O. Reg. 231/08) permits the City of Ottawa to build on past planning decisions when developing and refining a Recommended Plan. Accordingly, when developing alternatives for the proposed Transitway station at Moodie Drive, the study team reviewed the *West Urban Community Transit Integration and Environmental Assessment Study (1997)* which defined a plan for the westerly extension of the Transitway from Moodie Drive to Kanata. This approved EA also reviewed potential station location alternatives in the vicinity of Moodie Drive and concluded that the Transitway station should be located east of Moodie Drive and north of Highway 417 as this location would best service existing and planned residential and employment development adjacent to the interchange. Therefore, the Transitway station development component of the current study was focused on refining a station location concept east of Moodie Drive.

On 8 September 2010, the Preliminary Recommended Plan identifying a proposed Transitway station east of Moodie Drive received City of Ottawa Council approval, along with Council direction to initiate the Transit Project Assessment Process based on the approved functional design. Shortly thereafter, in October 2010, the City of Ottawa was made aware that Public Works and Government Services Canada (PWGSC) had purchased the former Nortel Carling campus with intention of creating a federal employment node with a potential build out scenario of 10,000 employees by 2013 and up to 15,000 employees by 2031. Responding to traffic related concerns expressed by members of the local community, on 27 April 2011, City Council carried the following motion;

*THEREFORE BE IT RESOLVED THAT Recommendation 4 be replaced with the following: "That, prior to initiating the Transit Project Assessment Process, the location of the proposed Corkstown/Moodie area station be brought back to the Transportation Committee and Council for consideration."*

This report provides a comparative review of the Council approved station located east of Moodie Drive, with an alternate station concept located west of Moodie Drive.

## DISCUSSION

### *Overview of Station Location Alternatives*

The two station location alternatives considered in this comparative assessment are illustrated in *Figure 2 and Figure 3*. In both cases, the Transitway passes through (under) the Moodie Drive interchange before continuing west between Corkstown Road and Highway 417. Both station concepts accommodate local and rapid transit service and are compatible with the future conversion to light rail transit (LRT).

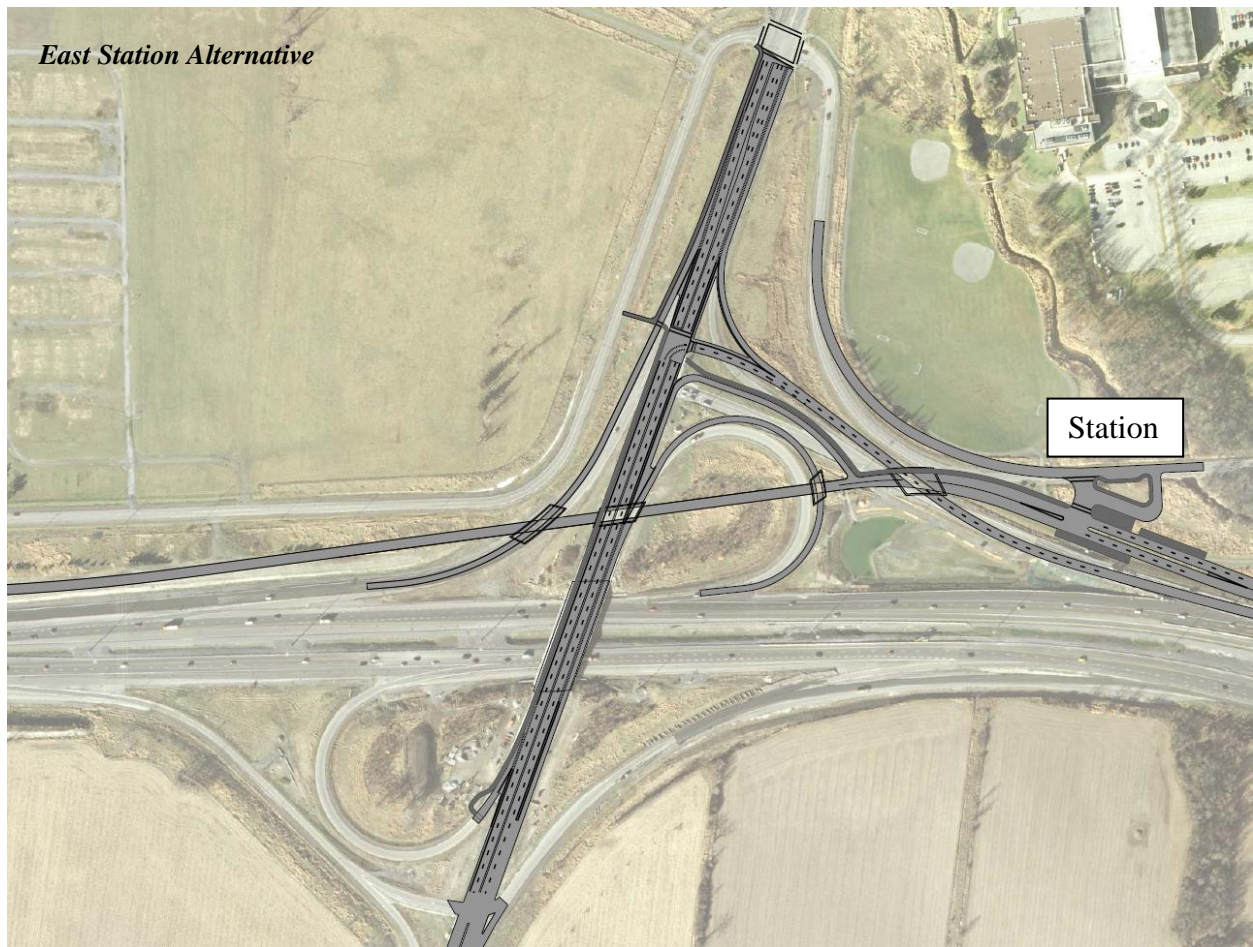
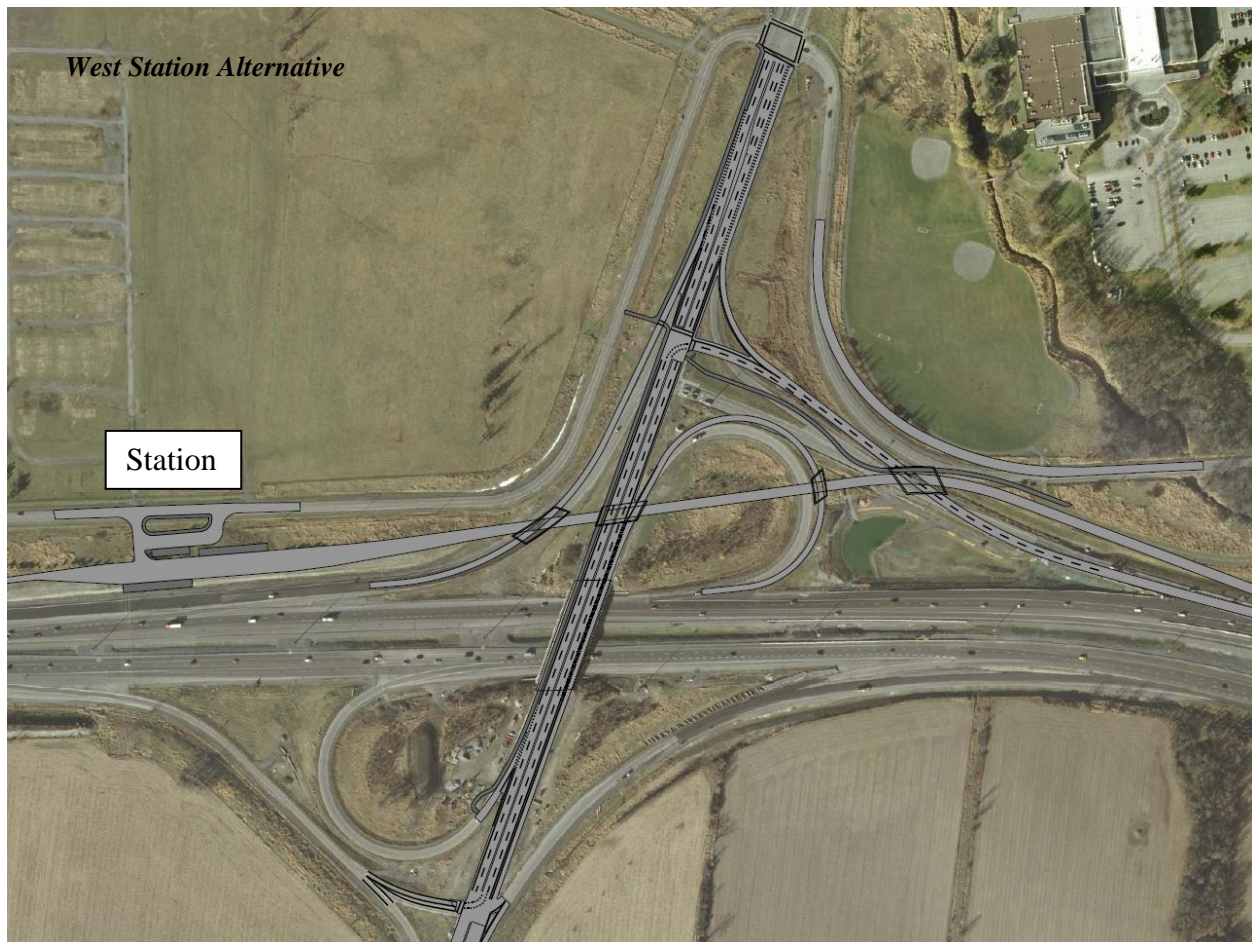


Figure 2: East Station Alternative



**Figure 3: West Station Alternative**

### Methodology

The decision making process used to identify a recommended station location was consistent with the process followed to identify the Council approved Recommended Plan for the overall project from Bayshore Station to west of Moodie Drive and was guided by an assessment of net environmental affects and a comparative evaluation of alternatives. As part of this process, potential effects associated with each alternative were anticipated and opportunities for mitigation were identified. Alternatives that were expected to result in significant net environmental effects were not carried forward. As such, the preferred station location recognizes the potential for environmental effects and incorporates measures to mitigate them. The comparative assessment considers environmental impacts in the following factor areas: Natural Environment; Social and Cultural Environment; and Technical/Transportation (including economics) considerations.

The use of performance measures enabled the study team to assess anticipated net effects and accurately identify the differences in potential effects amongst alternatives. The significance and magnitude of net effects were used to determine the relative performance of each alternative, which in turn were used to establish comparative rankings and establish preference.

### Comparative Evaluation

The following provides a summary of the assessment and evaluation of station location alternatives. The detailed assessment tables are included as **Document 1**.

#### *Natural Environment:*

For both station location alternatives, the proposed Transitway route extends along the southern edge of the Stillwater Creek Valley Life Sciences Site (SCVLSS), which is designated by the Ministry of Natural Resources (MNR) as an Area of Natural Scientific Interest (ANSI). Both alternatives will require the removal of some cultural meadow land which is contiguous with the SCVLSS. However, the overall ecological significance of the impacted meadow area is considered relatively low as it is characterized by low botanical diversity and a high proportion of non-native species, is isolated and therefore provides limited opportunity for wildlife movement, and contains habitat that is common and well represented in the study area.

Positioning the station off of Corkstown Road west of Moodie Drive will minimize encroachment into the cultural meadow; however, neither alternative will affect the features for which the SCVLSS is recognized (narrow ravine in a deep clay plain dominated by Sugar Maple-Black Maple). The overall impact to the SCVLSS is therefore considered to be minor.

Both alternatives will require the minor realignment of Stillwater Creek just east of Moodie Drive (at its confluence with Tributary A) to accommodate the culvert extension required for the Transitway lanes. In both cases, this presents an opportunity to address existing and ongoing erosion at this location. For either alternative, design measures will be implemented to minimize potential bank erosion where the Transitway encroaches on Stillwater Creek.

Locating the Transitway station west of Moodie Drive results in similar impacts to the floodplain, as the footprint of the Transitway alignment is the greatest contributor to development in the floodplain. For both alternatives, the primary loss of floodplain storage is associated with development of the open channel along the north side of Highway 417. However, this channel is not effective in flow conveyance or flood plain management for Stillwater Creek.

Overall, from a natural environment perspective, as primary footprint impacts are associated with the Transitway alignment and are common to both station location alternatives, there is little discernable difference for this factor area. With the introduction of design measures to mitigate direct and indirect effects, and due to the relatively low sensitivity of potentially affected areas, neither alternative is expected to result in significant impacts to the natural environment.

#### *Social / Cultural Environment:*

No significant impacts to property, heritage or archaeology resources are anticipated for either alternative.

The noise assessment completed for the Council Approved Recommended Plan concluded that the contribution of the proposed Transitway to local environmental noise will be indistinguishable from the local background noise generated by Highway 417, and that noise attenuation measures as part of the Transitway extension project are not warranted. Furthermore, an investigation of the proposed Transitway station concluded that predicted sound levels from this source fall below Ministry of the Environment (MOE) sound level limits for stationary

sources of noise, will be imperceptible to humans and are considered insignificant when compared to future ambient conditions.

In an effort to isolate the noise impacts from the proposed Transitway station, the noise assessment compared a *Future Do Nothing* scenario (FDN - horizon year of 2031, Transitway not constructed) with a *Future Transitway Constructed* scenario (FTC – horizon year of 2031, Transitway construction with a Transit Terminal near Moodie Drive). In addition to the effects of the Transitway itself, the FTC scenario also includes the effects of bus idling, acceleration and deceleration at receptor locations near the proposed station east of Moodie Drive. This comparison determined that predicted sound levels associated with the station would fall below MOE criteria for stationary sources of noise. Noise receptor locations are illustrated in Figure 3 and predicted impacts of the station at these receptors are included in Table 1. A copy of the *Environmental Noise, Air Quality & Ground Vibrations Existing and Future Conditions Report (GME, 2011)* is included as **Document 2**.

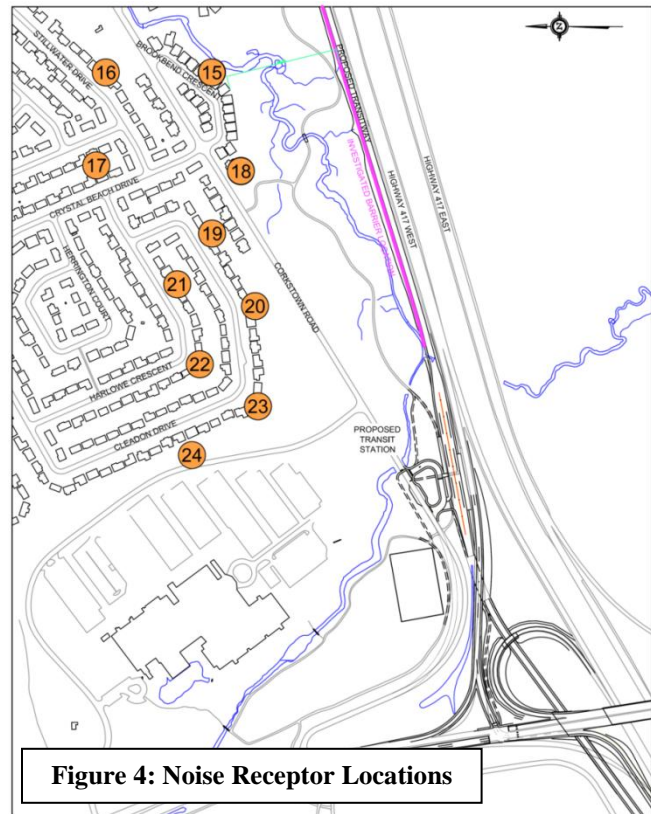


Figure 4: Noise Receptor Locations

Table 1: Predicted Noise Impacts of the East Station Alternative under FTC conditions

RECEPTOR	FTC STATION NOISE $L_{EQ}$ 1hr (dBA)	CRITERIA DAY / NIGHT $L_{EQ}$ 1hr (dBA)	CONFORMANCE TO MOE CRITERIA
17	36	50 / 45	PASS
18	39	50 / 45	PASS
19	40	50 / 45	PASS
20	42	50 / 45	PASS
21	40	50 / 45	PASS
22	42	50 / 45	PASS
23	44	50 / 45	PASS
24	41	50 / 45	PASS

In addition, although the development of a transit station is expected to generate new vibrations, the vibration analysis concluded that these vibrations should not be considered a significant factor in selecting a preferred station location. For the East Station Alternative, given the amplitude of decay observed between measured locations, the continuous surficial geology in the area, and a distance of approximately 250m (minimum) between the station and the nearest residences, ground vibration levels ranging between 0.1 and 0.2mm/s can be expected. These

levels will be perceptible; however, will fall significantly below the typical annoyance threshold of 1.0mm/s, and significantly below the threshold for cosmetic building damage (3.0mm/s). Relocating the station 750m further west would minimize the potential for minor noise/vibration impacts.

The East Station Alternative is preferred over the West Station Alternative from a safety and accessibility perspective as the proposed station is fully integrated with the existing multi-use pathway infrastructure, provides the greatest opportunity for enhanced active transportation connections, and provides an enhanced sense of security through increased activity and visibility. The East Station Alternative is also more compatible with existing land use in the northeast quadrant of the Highway 417 / Moodie Drive interchange, as employment and residential properties are located within a 600m radius of the station (considered as the maximum distance individuals will walk to access transit). There are no employment or residential lands located within walking distance to the West Station Alternative.

#### *Technical/Transportation Considerations*

The West Station Alternative is located within the MTO right-of-way and on municipal property, which minimizes impacts to National Capital Commission (NCC) Greenbelt lands. However, under both alternatives, NCC property is required to accommodate the Transitway alignment. The East Station Alternative requires approximately 1.1 hectares of NCC land, while the West Station Alternative requires approximately 0.7 hectares.

The East Station Alternative maximizes operational efficiency and accessibility to transit users from adjacent employment and residential lands. From an operational perspective, the West Station Alternative requires every eastbound bus to travel an additional 1.5 km to access the station (*Figure 4*). This detour would generate increased vehicle emissions and would increase travel times by up to 3.5 minutes<sup>1</sup> when compared to the East Station Alternative. This 3.5 minute detour would increase annual operating costs by approximately \$525,000, based on current bus volumes, and could be expected to increase over the course of the planning horizon to more than \$810,000 by 2031. In addition to introducing a detour, the West Station Alternative also requires all eastbound Transitway buses to make a left turn movement across Moodie Drive, further reducing service reliability during the morning peak period.

From an overall transit service perspective, providing efficient and reliable rapid transit (Transitway) service should be prioritized. By minimizing travel distance and avoiding left-turn movements, the East Station alternative is strongly preferred.

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<sup>1</sup> Assumes 1.5 km at an average speed of 25 km/hr.

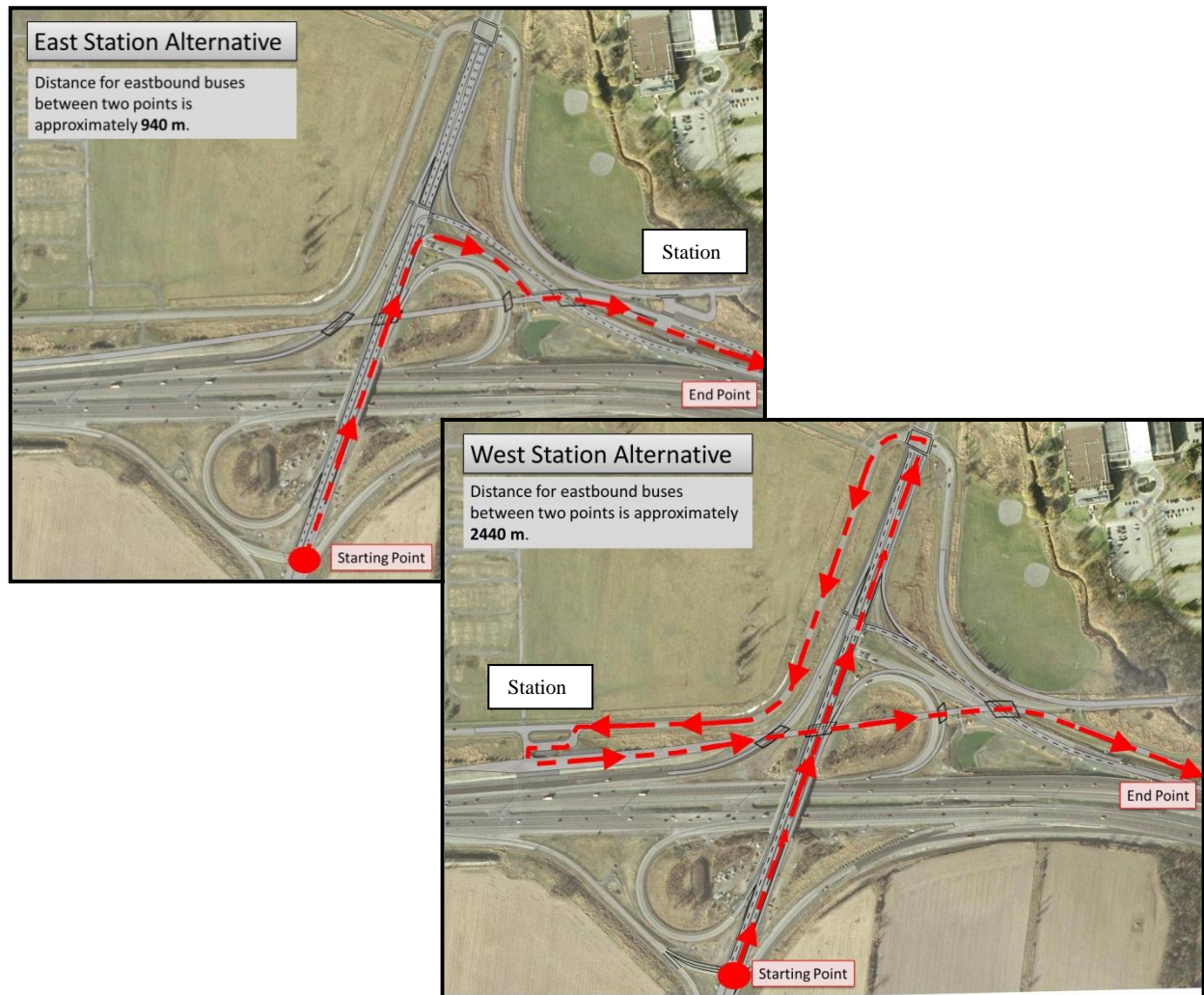


Figure 5: EB Transitway Operations

As indicated above, the federal government has expressed intent to create a federal employment node at the former Nortel Carling site. The Transportation Demand Management (TDM) study which is expected to be completed to accommodate this intensified employment node is proponent driven (initiated by PWGSC) and would be supported by the City of Ottawa Transportation Planning Branch. Both station alternatives are located more than 600m from the potential future federal employment node (considered the farthest people are willing to walk to access transit). The East Station Alternative is approximately a 1.67 km walk from the site while the West Station Alternative is approximately a 1.84 km walk. While a transit servicing plan for this site is beyond the scope of this project, both alternatives allow the opportunity to provide direct transit connections to this site to enhance accessibility to transit. Under existing conditions, transit access to both station alternatives would require two left turn movements



across Moodie Drive during peak traffic periods. If warranted, additional accesses could be added for each station alternative to remove one of these left turn movements. (Figure 5).

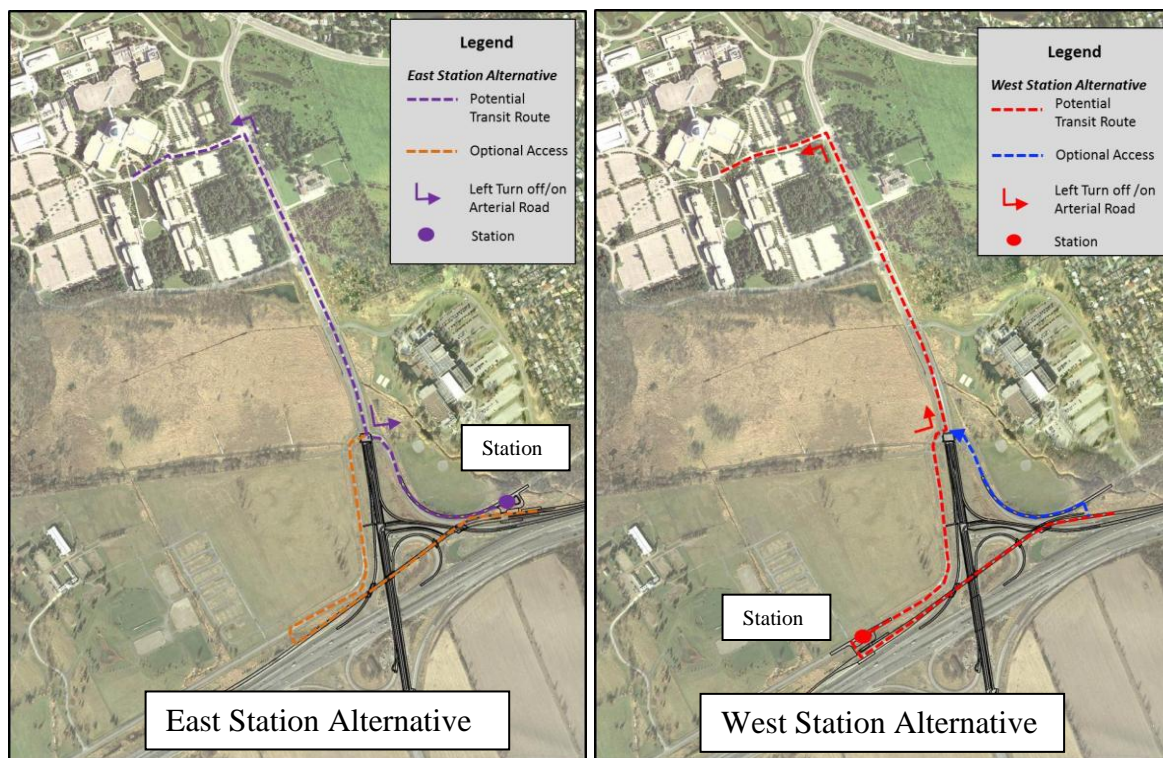


Figure 6: Potential transit connections from Station Location Alternatives to the former Nortel Carling site.

Conclusion

*As the impacts associated with the East Station Alternative are considered minor, and the benefits to transit operations and users are considerable, it is recommended that the Council-approved station east of Moodie Drive be retained as part of the Recommended Plan for the West Transitway Extension from Bayshore Station to West of Moodie Drive.*

Although the East Station Alternative results in a slightly larger footprint impact to the cultural meadow lands contiguous with the SVCLSS, neither station will impact the natural features for which the site is designated. The minor footprint impacts associated with East Station Alternative can be mitigated through design and construction practices.

While the West Station Alternative minimizes noise/vibration impacts by locating the station further from residential properties, these impacts fall significantly below MOE guidelines and typical human annoyance thresholds and are therefore considered minor. Locating the station west of Moodie Drive eliminates the benefits of integrating the station with existing land uses in the northeast quadrant of the Highway 417 / Moodie Drive interchange. These benefits include enhanced accessibility from adjacent employment and residential uses, integration with active transportation infrastructure, and an enhanced sense of security for transit users through increased station activity and visibility.

In terms of transit operations, the East Station Alternative maximizes transit service reliability and operational efficiency by avoiding left turn movements and minimizing required travel

distances (and travel times) for all eastbound Transitway buses. The 1.5 km detour and addition of a left-turn movement associated with the West Station Alternative would result in a significant reduction in rapid transit service when compared to the East Station Alternative.

The recommendation to locate the Transitway station east of Moodie Drive is consistent with the EA approved 1997 West Urban Community Transit Integration and EA Study and 2010 Council-approved West Transitway – Bayshore to Moodie Recommended Plan.

### RURAL IMPLICATIONS

Transit services for rural residents who use the Park and Rides in the west end of the City will be improved by the construction of the West Transitway Extension (Bayshore to Moodie). The West Station Alternative would lengthen the daily commute by approximately three and a half minutes

### CONSULTATION

Recognizing the importance of stakeholder participation in the planning process, a comprehensive consultation program is being undertaken to ensure that all concerns and issues are identified and given appropriate consideration early and throughout the West Transitway Extension planning and environmental assessment study.

To date, we have held the following focus meetings with the Crystal Beach/Lakeview Community Association (CBLCA) executive:

1. 30 April 2009;
2. 1 September 2009;
3. 2 November 2009;
4. 12 January 2010;
5. 4 February 2010;
6. 16 June 2010;
7. 3 November 2011

Furthermore, we have held three open houses with the general public to discuss this project and elicit feedback. These were held on:

1. 25 June 2009 at Maki House in the Crystal Beach/Lakeview community;
2. Two back-to-back open houses: 22 February 2010 in Kanata at the Mlacak Centre , and 24 February 2010 at Maki House in the Crystal Beach/Lakeview community; and
3. 23 June 2010 at Maki House in the Crystal Beach/Lakeview community.

All Open Houses were advertised city-wide in the Ottawa Citizen, the Le Droit and the City website.

Recognizing that this project impacts many stakeholders, the project team has met on an ongoing basis with the City of Ottawa Advisory Committees and government agencies, such as:

- Ottawa Forests and Greenspace Advisory Committee (OFGAC);
- Roads and Cycling Advisory Committee (RCAC);
- Pedestrian and Transit Advisory Committee (PTAC);
- National Capital Commission (NCC); and
- Ministry of Transportation Ontario (MTO).

Meetings with the NCC and the executive committee of the Crystal Beach/Lakeview Community Association have been held to discuss the findings of this report (3 November 2011). As part of the Transit Assessment Process, a Public Open House will be held to present the final Recommended Plan.

#### COMMENTS BY THE WARD COUNCILLOR(S)

I am thankful to City staff for having gone back, at my request, and reviewing all of the relevant data related to potential station location siting. Upon this secondary review, and having reconfirmed the validity of the reasoning for the east side location I am supportive of this moving ahead. As future developments occur with the Federal Government staffing the former Nortel campus site, I would seek City staff, Committee & Council support in ensuring that the Federal Government complete a transit plan that works in concert with our location of the station.

#### LEGAL IMPLICATIONS

There are no legal impediments to implementing the recommendation in this report.

#### RISK MANAGEMENT IMPLICATIONS

If the station location is not approved, then further delays to the commencement of the TPAP will occur. This could potentially delay the start of the construction of the West Transitway Extension (Bayshore to Moodie).

#### FINANCIAL IMPLICATIONS

The west station alternative will require every eastbound bus to travel an additional 1.5 km to access the station resulting in incremental OC Transpo annual operating costs of approximately \$525,000 based on current bus volumes or approximately \$810,000 by 2031. In order to maintain service frequency, additional investment in buses would also be required of approximately \$2.8M based on current volumes or potentially \$5M by 2031. Per discussion with

Infrastructure Services the capital investment requirements would remain consistent under either the East Station Alternative or West Station Alternative.

### ACCESSIBILITY IMPACTS

From a station design perspective, both station alternatives will be equally designed to minimize the impacts to people with disabilities and/or seniors in terms of reducing, removing or preventing barriers. The station design will be refined as the project moves through the Transit Project Assessment process and detail design completed. The station design will be presented to the City's Accessibility Advisory Committee for comment.

The east station alternative provides the opportunity for a direct connection to Corkstown Road and the recreational pathway, ensuring safe pedestrian access to and from the community north of the Transitway without crossing on/off ramps. The east station location is preferred as this location is better integrated into the community and maximizes visual sightlines from the station platforms, reducing the sense of isolation for waiting passengers.

### ENVIRONMENTAL IMPLICATIONS

For both station location alternatives, the proposed Transitway route extends along the southern edge of the Stillwater Creek Valley Life Sciences Site (SCVLSS), which is designated by the Ministry of Natural Resources (MNR) as an Area of Natural Scientific Interest (ANSI). Both alternatives will require the removal of some cultural meadow land which is contiguous with the SCVLSS. However, the overall ecological significance of the impacted meadow area is considered relatively low as it is characterized by low botanical diversity and a high proportion of non-native species, is isolated and therefore provides limited opportunity for wildlife movement, and contains habitat that is common and well represented in the study area.

Positioning the station off of Corkstown Road west of Moodie Drive will minimize encroachment into the cultural meadow; however, neither alternative will affect the features for which the SCVLSS is recognized (narrow ravine in a deep clay plain dominated by Sugar Maple-Black Maple). The overall impact to the SCVLSS is therefore considered to be minor.

Both alternatives will require the minor realignment of Stillwater Creek just east of Moodie Drive (at its confluence with Tributary A) to accommodate the culvert extension required for the Transitway lanes. In both cases, this presents an opportunity to address existing and ongoing erosion at this location. For either alternative, design measures will be implemented to minimize potential bank erosion where the Transitway encroaches on Stillwater Creek.

Overall, from a natural environment perspective, as primary footprint impacts are associated with the Transitway alignment and are common to both station location alternatives, there is little discernable difference impacts associated with either station alternative. With the introduction of design measures to mitigate direct and indirect effects, and due to the relatively low sensitivity of potentially affected areas, neither alternative is expected to result in significant impacts to the natural environment.

## TECHNOLOGICAL IMPLICATIONS

There are no technological implications.

## CITY STRATEGIC PLAN

Index	Strategic objective	Strategic Objective Description
TM1	Ensure sustainable transit services	Offer reliable travel options at the lowest possible cost and in a financially and operationally sustainable way.
TM2	Maximize density in and around transit stations	Plan well-designed, compact neighbourhoods where residents can live, work, shop and play close by, complete daily activities easily, access viable transit, and support local businesses.
TM3	Provide infrastructure to support mobility choices	Improve residents' mobility choices by supporting initiatives related to routes, rapid transit, walking, and cycling.

## SUPPORTING DOCUMENTATION

Document 1: [Assessment of Effects and Comparative Evaluation of Station Location Alternatives](#) (distributed previously and held on file with the City Clerk)

Document 2: [Environmental Noise, Air Quality & Ground Vibrations Existing and Future Conditions Report \(GME, 2011\)](#) (distributed previously and held on file with the City Clerk)

## DISPOSITION

Following Committee and Council approval, the following activities will be undertaken:

- The formal Provincial Transit Project Assessment Process (TPAP) will be initiated with a Notice of Study Commencement which will be published in local and community newspapers in both official languages. As part of the TPAP process, additional

consultation and analysis will be carried out to refine the Preliminary Recommended Plan including a final Public Open House;

- A Draft Environmental Project Report (EPR) documenting the Final Recommended Plan will be prepared and placed on the Public Record for review in accordance with O. Reg. 231/08;
- A Draft Federal EA Screening Report will be prepared to assess the potential environmental effects including the consideration of cumulative effects; and
- A detail design and construction tender package, including all required permits and approvals will be prepared.

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WEST TRANSITWAY EXTENSION FROM BAYSHORE STATION TO WEST OF  
MOODIE DRIVE: COMPARATIVE REVIEW OF AN ALTERNATIVE STATION  
LOCATION WEST OF MOODIE DRIVE

PROLONGEMENT DU TRONÇON OUEST DU TRANSITWAY DEPUIS LA  
STATION BAYSHORE JUSQU'À L'OUEST DE LA ROUTE MOODIE – EXAMEN  
COMPARATIF ENTRE LES PROJETS DE STATION À L'EST ET À L'OUEST DE  
LA ROUTE MOODIE

ACS2011-ICS-INF-0015

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**REPORT RECOMMENDATION:**

**That Transportation Committee recommend that Council receive this report for information.**

A PowerPoint presentation was provided by the following: Tim Dickenson and Peter Steacy, MMM Group; Ziad Ghadban, Darryl Shurb, and Jeffrey Waara, Design and Construction, Municipal (East), Infrastructure Services Department. A copy of the presentation is held on file.

Bill Fenton, Crystal Beach Lakeview Community Association, spoke in opposition to the proposed station suggesting it is not warranted, is too costly and will cause traffic congestion and delays for commuters from communities to the west. Mr. Fenton was also concerned that the feedback obtained through public consultation was not included in the staff report.

The report was put to Committee and RECEIVED.