

Report to/Rapport au:

**Transit Committee/
Comité de transport en commun**

12 August 2010 / le 12 août 2010

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Ref N°: ACS2010-ICS-INF-0012

SUBJECT: WEST TRANSITWAY EXTENSION FROM BAYSHORE STATION TO WEST OF MOODIE DRIVE: FUNCTIONAL DESIGN RECOMMENDATIONS

OBJET : PROLONGEMENT DU TRANSITWAY DU SECTEUR OUEST DE LA STATION BAYSHORE JUSQU'À L'OUEST DE LA PROMENADE MOODIE: RECOMMANDATIONS RELATIVES À LA CONCEPTION FONCTIONNELLE

REPORT RECOMMENDATIONS

That the Transit Committee recommend Council:

- 1. Approve the functional design (Preliminary Recommended Plan) to extend the West Transitway from Bayshore Station to west of Moodie Drive as described in this report and detailed in Documents 1 to 6; and**
- 2. Direct staff to initiate the Transit Project Assessment Process based on the functional design in accordance with the Ontario Environmental Assessment Act (Regulation 231/08) including the preparation and filing of the Environmental Project Report (EPR) for formal public review and comment.**

RECOMMANDATIONS DU RAPPORT

Que le Comité du transport en commun recommande au Conseil :

- 1. d'approuver la conception fonctionnelle (le plan recommandé préliminaire) en vue du prolongement du Transitway Ouest de la station Bayshore à l'ouest de la promenade Moodie, tel que décrit dans le rapport et présenté en détail dans les documents 1 à 6;**

2. **de demander au personnel de lancer le processus d'évaluation du projet de transport en commun fondé sur la conception fonctionnelle conformément à la *Loi sur les évaluations environnementales* de l'Ontario (Règlement 231/08), y compris la préparation et le dépôt d'un Rapport sur le projet environnemental aux fins d'examen officiel par le public et de commentaires.**

EXECUTIVE SUMMARY

Background

In February 2009, the City of Ottawa initiated a planning and design study to identify a Recommended Plan to extend the bus rapid transit (BRT) network (Transitway) from Bayshore Station to west of Moodie Drive. The project was identified as a priority transit investment (Phase 1, Increment 1) in the 2008 Transportation Master Plan (TMP) and is required to address current transit service reliability issues associated with running scheduled bus service in mixed traffic on Highway 417 (the Queensway).

This report outlines the findings of pre-planning activities undertaken to develop the Preliminary Recommended Plan including corridor selection, route selection, the selection of a preferred preliminary design with measures to mitigate environmental impacts, identification of a strategy to guide implementation and an on-going stakeholder consultation program.

Following Council approval of the Preliminary Recommended Plan, the formal provincial Environmental Assessment (EA) approvals process will be initiated in accordance with the Transit Project Assessment Process (TPAP {O. Reg. 231/08}). In addition, as National Capital Commission (NCC) lands are required, a screening under the Canadian Environmental Assessment Act (CEA Act) has been initiated.

Discussion

The Preliminary Recommended Plan (illustrated in **Document 1**) locates the Transitway on the north side of Highway 417 and is comprised of two 4.0 m transitway lanes and two 2.5 m paved shoulders. The Transitway is for exclusive transit use and is grade-separated at both Holly Acres Road and Moodie Drive. A transit station is proposed immediately east of Moodie Drive with local bus access from Corkstown Road. This station location is fully integrated with the existing multi-use pathway network and provides OC Transpo with the flexibility to terminate/turn around local and shuttle bus services. A small "kiss-and-ride" facility is also proposed adjacent to the station on Corkstown Road in order to improve community access to rapid transit.

Based on input received through consultation with interested stakeholders, a number of elements have been incorporated into the Preliminary Recommended Plan to enhance the existing pedestrian and cycling environment including: removing one southbound traffic lane on the Moodie Drive bridge over Highway 417 to allow for the widening of the southbound cycling lane; the provision of a new 3.0m multi-use pathway on the west side of the bridge; relocating existing cycling lanes on the bridge to the shoulders; providing bike boxes to give cyclists priority at ramp intersections; and new and enhanced multi-use pathway connections at Holly Acres Road and Moodie Drive.

To limit encroachment into the Stillwater Creek Valley and avoid direct impacts to sensitive valley vegetation, the Plan includes a 750m long retaining wall to contain the proposed West Transitway facility entirely within the Highway 417 right-of-way from Bayshore Station to approximately 550m east of Moodie Drive. The direct removal of approximately 1.2 ha of vegetation located in the meadow area just east of Moodie Drive is required to accommodate the station at Corkstown Road. Ecological significance of this meadow is considered relatively low based on the following:

- The meadow has relatively low botanical diversity and a high proportion of non-native species;
- Species of regional conservation concern located west of Stillwater Creek were transplanted as part of the ongoing 3W watermain project to a new wetland complex at the Fletcher Wildlife Garden. Seeds are being collected and will be distributed for use in other wetland areas;
- The meadow is isolated by Highway 417 to the south and Corkstown Road to the north and provides very limited wildlife movement opportunities; and,
- Wildlife habitat associated with the meadow area is common and well represented in the study area and adjacent lands.

The noise analysis completed in support of this study has concluded that the contribution to environmental noise from the Transitway is expected to range from 0.1 to 0.2 dBA and be indistinguishable from local background traffic noise in the horizon year (2031). On opening day, the contribution of the Transitway would be less than 1 dBA which is significantly below the threshold of human sensitivity to noise level increases. The dominant source of roadway noise is, and will continue to be Highway 417. In accordance with the City's *Environmental Noise Control Guidelines for Capital Works Projects (Surface Transportation Corridors)*, this predicted increase does not warrant noise attenuation (an increase of 5 dBA, and a total future noise level of > 60 dBA is required to meet the warrant).

However, it is recognized that without noise attenuation, the projected growth in highway traffic will result in future noise levels that exceed 60 dBA at a number of receptor locations (this threshold is already exceeded in some areas). In response to this issue, the Ministry of Transportation (MTO) has identified two sites in the study area as candidate sites for their Retrofit Noise Barrier Program (extending from Bayshore Station to near the proposed station at Corkstown Road). The Preliminary Recommended Plan has been developed so as not to preclude the installation of these barriers by MTO.

The Preliminary Recommended Plan described above represents the ultimate, long-term plan for a fully grade-separated Transitway facility. Policy 5.2.2 (3) of the TMP, however, directs staff to defer the cost of grade-separating rapid transit elements by introducing measures that improve reliability by incrementally introducing enhancements to isolate transit from mixed traffic. In accordance with this direction, an analysis was undertaken to determine whether the construction of grade separations at Holly Acres Road and/or Moodie Drive could be deferred until a future date. This analysis concluded that, while the grade separation of Holly Acres Road is required in the near term, the construction of three structures at the Moodie Drive interchange (and the long-term transitway station at Corkstown Road) can be deferred until at least 2021. Near term and interim configurations at Moodie Drive are illustrated in **Documents 2 and 3**.

As a result of this analysis, the proposed implementation schedule for this project is as follows:

	Timeframe	Description of Works	Estimated Cost (2010\$)
Phase 1	2011 to ~2021	<ul style="list-style-type: none"> • Construct exclusive Transitway from Bayshore Station to Moodie Drive; • Construct grade separation of Holly Acres Road; • Construct improvements to the existing multi-use pathway and on-road cycling network in the vicinity of Holly Acres Road and Moodie Drive; • Construct intersection modifications at Moodie Drive to accommodate Transitway termination; • Implement environmental mitigation measures; and • Construct interim station configuration at the at-grade Transitway intersection with Moodie Drive. 	\$29.2M
Phase 2	~2021 to Beyond 2031	<ul style="list-style-type: none"> • Construct grade separation of Moodie Drive for westbound Transitway buses. • Construct long-term transit station configuration at Corkstown Road. 	\$27.8M
End of Planning Horizon			
	Beyond 2031 <to be completed by others>	<ul style="list-style-type: none"> • Tie-in to future extension of the West Transitway from west of Moodie Drive to west of Eagleson Road. Alternatively, a new Transitway bridge could be constructed over Highway 417 west of Moodie Drive to connect eastbound buses travelling on highway shoulder lanes to the Transitway east of Moodie (this configuration would not be convertible to rail and would be a through away bridge when light rail is extended to Eagleson Road). 	TBD

This project requires 5.5 hectares of MTO land, 1.2 hectares of NCC land, and 0.2 hectares of private property.

Consultation

Extensive consultation was undertaken over the course of the study, through Public Open Houses (3), meetings with a Technical Advisory Committee (6), meetings with the Crystal Beach/Lakeview Community Association (6), a presentation to the Ottawa Forest and Green Space Advisory Committee, a meeting with a representative from the Roads and Cycling Advisory Committee and individual meetings with the MTO, NCC and RVCA.

Input received through the study consultation efforts provided valuable guidance towards the development of the Preliminary Recommended Plan. Specifically, the following modifications were incorporated into the plan as a direct or indirect result of effective and constructive stakeholder engagement:

- Upgrading the existing asphalt pathway on the west side of Holly Acres Road to a 3.0 m multi-use pathway to improve access from the community to Bayshore Station;
- Providing a new multi-use pathway connection from Aero Drive to the Bayshore Transitway Station;
- Installing a 750m long retaining wall (varying from 1 to 2.5m in height) along the entire length of the Stillwater Creek Valley to avoid encroachment into Greenbelt lands and ensure the Transitway is maintained within the Highway 417 right-of-way. This retaining wall will be designed to accommodate an MTO noise barrier;
- Reducing the footprint of the local transit component of the proposed station at Corkstown Road to avoid potential impacts on Stillwater Creek;
- Adjusting the vertical profile of the Transitway near Moodie Drive to minimize potential impacts to the groundwater table;
- Providing a new multi-use pathway connection from the existing Watts Creek Recreational Pathway to existing on-road cycling facilities on Moodie Drive itself, and on Corkstown Road west of Moodie Drive;
- Removing one southbound lane on the Moodie Drive bridge over Highway 417 to accommodate upgrades to existing on-road cycling lanes and the provision of a 3.0 m multi-use pathway across the bridge connecting Crystal Beach/Lakeview to Bells Corners; and
- Providing a small ‘Kiss-and-Ride’ facility on Corkstown Road to improve community access to the proposed station at Corkstown Road.

The planning work completed to date has been carried out at a sufficient level of detail to define the functional design (Preliminary Recommended Plan), identify key issues and constraints, and develop preliminary approaches and strategies to address them. The Preliminary Recommended Plan will be further refined through on-going consultation with City staff, Advisory Committees, Regulatory Agencies and the general public as the study progresses through the EA approval and design phases. The Final Recommended Plan will be documented in an Environmental Project Report (EPR) and placed on the public record for a 30 day review period.

Financial Implications

Recommendation 1 - Subject to further assessment and detailing of the design work, the estimate for the Phase 1 project is \$29.2 million (2010 dollars). Phase 2 of the project (beyond 2021) is estimated to cost an additional \$27.8 million (2010 dollars) for the grade separation of Moodie Drive (for WB buses) and the construction of the long-term station at Corkstown Road.

The full build-out of the Preliminary Recommended Plan to 2031 is therefore estimated to cost \$57 million (2010 dollars).

The ultimate tie-in to the future extension of the West Transitway across the Greenbelt is not included in this estimate as there is no timeframe for implementation (beyond 2031). As the mainline Transitway and all grade separations will be constructed as part of Phase 1 and Phase 2, the cost associated with the tie-in are not expected to be high. The cost of the tie-in would be included in the future construction contract to extend the West Transitway from west of Moodie Drive to west of Eagleson Road.

Cost estimates will form part of the Long-Range Financial Plan, which will be tabled later this year. Funds will be requested, at the appropriate times, through the capital budget process.

Recommendation 2 - Funding for the Transit Project Assessment Process is available within 904482 West Transitway (Bayshore Stn. to Moodie).

RÉSUMÉ

Contexte

En février 2009, la Ville d'Ottawa a amorcé cette étude de planification et de conception afin de préparer un Plan recommandé pour le prolongement du réseau de transport commun rapide en autobus (Transitway) de la station Bayshore Station à l'ouest de la promenade Moodie. Ce projet a été désigné comme un investissement prioritaire en transport en commun (étape 1 de la phase 1 dans le Plan directeur des transports de 2008 (ODT) et est nécessaire pour régler les problèmes de fiabilité du service de transport en commun actuels associés à la gestion d'un service d'autobus à horaire fixe dans la circulation mixte de l'autoroute 417 (Queensway).

Ce rapport présente les conclusions des activités préalables à la planification entreprises pour élaborer un plan recommandé préliminaire, notamment le choix du couloir, choix du parcours, le choix d'une conception préliminaire préférée y compris les mesures d'atténuation des effets environnementaux, la mise au point d'une stratégie pour guider la mise en oeuvre et un programme de consultation des intervenants en cours.

Après que le Conseil aura approuvé le plan recommandé préliminaire, le processus d'approbation officiel de l'évaluation environnementale sera lancé conformément au processus d'évaluation des projets de transport en commun (*Règlement de l'Ontario 231/08*). De plus, comme le projet passe sur des terrains de la Commission de la capitale nationale, une évaluation en vertu de la *Loi canadienne sur l'évaluation environnementale* (LCEE) a été amorcée.

Discussion

Le plan recommandé préliminaire (illustré dans le **Document 1**) situe le Transitway au nord de l'autoroute 417 et comprend deux voies de Transitway de 4 m et deux accotements asphaltés de 2,5 m. Le Transitway sert à l'usage exclusif du transport en commun et sera aménagé en voies superposées au chemin Holly Acres et à la promenade Moodie. Une station pour le transport en commun serait située immédiatement à l'est de la promenade Moodie avec accès par autobus local du chemin Corkstown. Cette station est entièrement intégrée au réseau de sentiers polyvalents; elle procure à OC Transpo la souplesse nécessaire pour servir de terminus/zone de manœuvre aux services d'autobus locaux et de navettes. On propose d'installer un poste d'attente à côté de la station, sur le chemin Corkstown afin d'améliorer l'accès communautaire au transport rapide.

En fonction de l'information recueillie dans les consultations auprès des personnes concernées, un certain nombre d'éléments ont été intégrés au plan recommandé préliminaire pour améliorer l'environnement actuel réservé aux piétons et aux cyclistes, notamment enlever une voie de circulation vers le sud sur le pont de la promenade Moodie qui passe au-dessus de l'autoroute 417, afin de permettre l'élargissement de la piste cyclable vers le sud et la mise en place d'un

nouveau sentier polyvalent de 3 m sur le côté ouest du pont; de déplacer les pistes cyclables actuelles sur l'accotement du pont de la promenade Moodie; de mettre en place des sas-vélos pour donner la priorité aux cyclistes aux intersections des bretelles d'accès; et de nouveaux sentiers polyvalents améliorés vers le chemin Holly Acres et la promenade Moodie.

Afin de limiter l'empiètement dans la vallée du ruisseau Stillwater et d'éviter toutes répercussions directes sur la végétation délicate, le plan comprend un mur de soutènement de 750 m de long qui contient les installations complètes du Transitway Ouest dans l'emprise de l'autoroute 417 de la station Bayshore à environ 550 m à l'est de la promenade Moodie. Le retrait direct d'environ 1,2 ha de végétation située dans un pré à l'est de la promenade Moodie est nécessaire pour l'aménagement de la station au chemin Corkstown. L'importance écologique du pré est relativement faible.

L'analyse du bruit effectuée en appui à la présente étude a conclu que l'apport du Transitway au bruit environnemental devrait être de l'ordre de 0,1 à 0,2 dB(A) et être indistinguable du bruit de circulation local en arrière-plan en 2031. La source prédominante de bruit routier est et continuera d'être l'autoroute 417. Conformément aux *Lignes directrices sur la lutte contre le bruit environnemental pour les travaux d'immobilisation (couloirs de transport de surface)*, cette augmentation prévue ne justifie pas la mise en place de mesures d'atténuation (une augmentation de 5 dB(A) et un niveau sonore futur de > 60 dB(A) sont nécessaires pour justifier ces mesures).

Il est cependant reconnu que sans atténuation du bruit, l'augmentation prévue de la circulation autoroutière se traduira par des niveaux sonores futurs qui dépasseront 60 dB(A) dans un certain nombre d'emplacements récepteurs (ce seuil est déjà dépassé dans certains secteurs). Comme solution à ce problème, le ministère des Transports a ciblé deux emplacements du secteur à l'étude comme candidats au programme d'installation d'écrans antibruit (allant de la station Bayshore et s'approchant de la station projetée au chemin Corkstown). Le plan recommandé préliminaire a été mis au point de manière à ne pas faire obstacle à l'installation de ces écrans par le ministère des Transports.

Le plan recommandé préliminaire décrit ci-dessus prépare le plan à long terme pour l'aménagement d'installation du Transitway dans un carrefour à niveaux différents. Cependant, le chapitre 5.2.2 (3) du PDT enjoint le personnel à reporter les coûts de la séparation des niveaux de circulation des éléments du transport en commun rapide en introduisant des mesures préférentielles pour le transport en commun pour diminuer les délais et améliorer la fiabilité et en apportant d'autres améliorations pour isoler le transport en commun de la circulation mixte. Conformément à cette directive, une analyse a été entreprise pour déterminer s'il est possible de reporter à une date ultérieure la construction de niveaux de circulation au carrefour du chemin Holly Acres et/ou de la promenade Moodie. Cette analyse a conclu que, bien qu'il soit nécessaire de mettre en place à court terme des niveaux différents au chemin Holly Acres, la construction de trois structures à l'échangeur de la promenade Moodie (et celle à long terme d'une station de Transitway au chemin Corkstown) peut être reportée jusqu'à 2021. La configuration à court terme et la configuration intérimaire sont illustrées dans les **documents 2 et 3**.

La mise en œuvre prévue de ce projet est la suivante :

	Calendrier	Description des travaux	Estimation des coûts (2010\$)
Phase 1	2011 à ~2021	<ul style="list-style-type: none"> • Construction des voies exclusives du Transitway de la station Bayshore vers la promenade Moodie; • Construction des niveaux différents au chemin Holly Acres; • Améliorations au réseau de sentier polyvalent et de voies cyclables sur la chaussée dans le voisinage du chemin Holly Acres et de la promenade Moodie; • Construction des modifications à l'intersection avec la promenade Moodie pour l'aménagement du terminus du Transitway; • Mise en œuvre de mesures d'atténuation environnementale : • Construction de stations intérimaires à l'intersection au même niveau que la promenade Moodie. 	29,2 M\$
Phase 2	~2021 à après 2031	<ul style="list-style-type: none"> • Construction de niveaux différents à la promenade Moodie pour les autobus du Transitway vers l'ouest. • Construction de la configuration de station à long terme au chemin Corkstown. 	27,8 M\$
Fin de l'horizon de planification			
	Après 2031 <sera achevé par ceux qui seront alors en place>	<ul style="list-style-type: none"> • Raccords aux prolongements futurs du Transitway Ouest de l'ouest de la promenade Moodie à l'ouest du chemin Eagleson. Subsidairement, un nouveau pont pourrait être érigé pour le Transitway au-dessus de l'autoroute 417 à l'ouest de la promenade Moodie pour relier les autobus en direction est qui se déplacent sur l'accotement de l'autoroute au Transitway à l'est de Moodie (cette configuration ne serait pas convertible pour le transport sur rail et deviendrait un pont inutile qu'il faudrait démolir une fois le prolongement du train léger jusqu'au chemin Eagleson réalisé). 	À déterminer

Ce projet a besoin de 5,5 hectares de terrains du ministère des Transports, de 1,2 hectare de terrains de la CCN et de 0,2 hectare de terre privée.

Consultation

De vastes consultations ont été entreprises pendant la durée de l'étude, au moyen notamment de séances portes ouvertes (3), de réunions avec un comité consultatif technique (6), de réunions avec les représentants de l'association communautaire Crystal Beach/Lakeview (6), d'une présentation du Comité consultatif sur les forêts et les espaces verts d'Ottawa, d'une réunion avec un représentant du Comité consultatif sur les routes et le cyclisme et de rencontres individuelles avec le ministère des Transports, la CCN et l'Office de protection de la nature de la vallée Rideau (OPNVR).

L'information recueillie dans le cadre des efforts de consultation de l'étude a permis de mettre au point de précieuses directives pour l'élaboration du plan recommandé préliminaire. Plus

précisément, les modifications suivantes ont été intégrées au plan en tant que résultats directs ou indirects de l'engagement efficace et constructif des intervenants.

- La transformation du sentier asphalté sur le côté ouest du chemin Holly Acres en un sentier polyvalent de 3 mètres pour améliorer l'accès à la station Bayshore;
- Mise en place d'un nouveau sentier polyvalent du chemin Aero à la station du Transitway Bayshore;
- Installation d'un mur de soutènement de 750 m (allant de 1 à 2,5 m de hauteur) sur toute la longueur de la vallée du ruisseau Stillwater, pour éviter l'empiètement sur les terres de la Ceinture verte et veiller à ce que le Transitway demeure sur l'emprise de l'autoroute 417. Ce mur de soutènement sera conçu en prévision de l'aménagement d'un écran antibruit du ministère des Transports;
- Réduction de l'empreinte de la composante locale de transport en commun de la station projetée du chemin Corkstown afin d'éviter les impacts possibles sur le ruisseau Stillwater;
- Ajustement du profil vertical du Transitway près de la promenade Moodie afin de minimiser les impacts possibles sur la nappe phréatique;
- Aménagement d'un nouveau sentier polyvalent allant du sentier récréatif du ruisseau Watts actuel aux installations de pistes cyclables sur chaussée actuelle sur la promenade Moodie et sur le chemin Corkstown à l'ouest de la promenade Moodie;
- Retrait de la voie vers le sud sur le pont de la promenade Moodie passant au-dessus de l'autoroute 417 afin de rénover les pistes cyclables sur chaussée actuelles et aménagement d'un sentier polyvalent de 3 m sur le pont reliant Crystal Beach/Lakeview à Bells Corners;
- Aménagement d'un poste d'attente sur le chemin Corkstown afin d'améliorer l'accès à la station projetée sur le chemin Corkstown;

Les travaux de planification effectués jusqu'à maintenant ont été mis au point avec un niveau de détail suffisant pour élaborer la conception fonctionnelle (plan recommandé préliminaire), cibler les contraintes et les problèmes principaux et mettre au point des démarches et stratégies préliminaires afin de les résoudre. Le plan recommandé préliminaire sera complété par des données complémentaires recueillies dans le cadre des consultations en cours avec le personnel de la Ville, les comités consultatifs, les organismes de réglementation et le public qui se dérouleront tout au long de la progression de l'étude à travers les diverses étapes d'approbation de l'évaluation environnementale et de la conception.

Le plan recommandé final sera accompagné d'un Rapport sur le projet environnemental et affiché pour consultations publiques pendant une période de 30 jours.

Répercussions financières:

Recommandation 1 – Sous réserve d'une évaluation plus approfondie et de travaux de conception plus détaillés, l'estimation du projet de la Phase 1 est de 29,2 millions de dollars (en dollars de 2010). Selon les prévisions, la Phase 2 du projet (au-delà de 2021) devrait coûter un autre 27,8 millions de dollars (en dollars de 2010) pour l'aménagement d'un carrefour à niveaux différents de la promenade Moodie (pour les autobus en direction ouest) et l'aménagement d'une station à long terme à la hauteur du chemin Corkstown.

La construction complète du Plan recommandé préliminaire qui se prolongera jusqu'en 2031 devrait ainsi coûter près de 57 millions de dollars (en dollars de 2010).

Le dernier raccordement de la prolongation future du Transitway-Ouest à travers la Ceinture de verdure n'est pas compris dans l'estimation puisqu'il n'y a pas de délai d'exécution pour sa mise en place (au-delà de 2031). Comme la ligne principale du Transitway et tous les carrefours à niveaux différents seront construits dans le cadre des Phases 1 et 2, les coûts liés au dernier raccordement ne devraient pas être élevés. Ces coûts seront compris dans le prochain contrat de construction afférent à la prolongation du Transitway-Ouest à l'ouest de la promenade Moodie jusqu'à l'ouest du chemin Eagleson.

Les estimations de coût seront comprises dans le Plan financier à long terme, qui sera déposé un peu plus tard cette année. Du financement sera demandé, au moment approprié, dans le cadre du processus d'établissement du budget d'immobilisations.

Recommandation 2 – Le financement pour le processus d'évaluation des projets de transport en commun est disponible sous le 904482 Transitway-Ouest (de la station Bayshore à Moodie).

BACKGROUND

Introduction

In February 2009, the City of Ottawa initiated a planning and design study to identify a Recommended Plan to extend the bus rapid transit (BRT) network (Transitway) from Bayshore Station to west of Moodie Drive. The project was identified as a priority transit investment (Phase 1, Increment 1) in the 2008 Transportation Master Plan (TMP) and is required to address current transit service reliability issues associated with running scheduled bus service in mixed traffic on Highway 417 (the Queensway).

The Preliminary Recommended Plan described in this report defines the long-term, fully grade-separated, BRT facility that was identified in the TMP to connect Bayshore Station to a future Transitway extension west of Moodie Drive (across the Greenbelt to Kanata). This plan also recommends a phased project implementation to defer the cost of grade separating Moodie Drive until a future date.

Following Council approval of the Preliminary Recommended Plan, the formal provincial Environmental Assessment (EA) approvals process will be initiated in accordance with the Transit Project Assessment Process (TPAP {O. Reg. 231/08}). In addition, as National Capital Commission (NCC) lands are required, a screening under the Canadian Environmental Assessment Act (CEA Act) has been initiated.

The planning work completed to date has been carried out at a sufficient level of detail to define a Preliminary Recommended Plan, identify key issues and constraints, and develop preliminary approaches and strategies to address them. The Preliminary Recommended Plan will be further refined through on-going consultation with City staff, Advisory Committees, Regulatory Agencies and the general public as the study progresses through the EA approval and design phases.

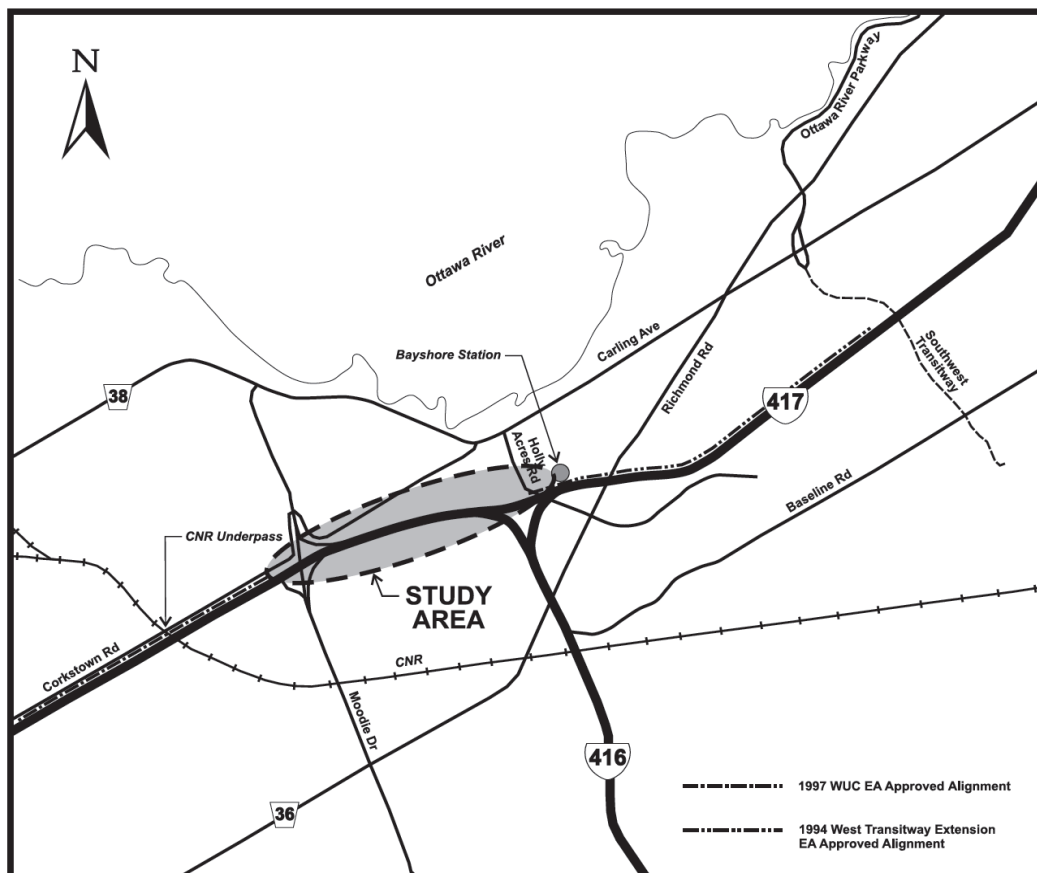
Project History

Planning for the westerly extension of the Transitway network began in 1994 with the *West Transitway Extension Individual Environmental Assessment, from Woodroffe Avenue to Acres Road* (Regional Municipality of Ottawa- Carleton {RMOC} approved in 1996). This approved EA study identified a Recommended Plan to extend the West Transitway on the north side of the Queensway from the Southwest Transitway to Bayshore Station.

In 1997, the RMOC completed the *West Urban Community Transit Integration Study and Environmental Assessment* (WUC EA) to define the long-term plan to extend the Transitway into the West Urban Community (Kanata). This approved EA study identified a Recommended Plan for the West Transitway running on the north side of the Queensway from Moodie Drive to Terry Fox Drive, including a conceptual Transitway station situated approximately 500m east of Moodie Drive.

A Recommended Plan was never identified to connect Bayshore Station to the approved WUC EA Transitway alignment west of Moodie Drive. The City must therefore complete additional planning work to obtain the necessary provincial and federal EA approvals to implement this stretch of Transitway. Figure 1 illustrates the current study limits in the context of previously approved studies.

Figure 1- Study Limits



Provincial Environmental Assessment Process

This project is being planned in accordance with the Transit Project Assessment Process (TPAP) as described in Ontario's Transit Project Regulation (O. Reg. 231/08). The TPAP is based on the principles of sound EA planning and places a 6-month maximum timeframe on the approvals process.

Prior to initiating the formal approvals process, the TPAP requires proponents to have a clearly defined transit project which necessitates a considerable amount of pre-planning work. In the context of this project, pre-planning activities completed by the City and summarized in this report include: corridor selection, route selection, selecting a preferred functional design including measures to mitigate environmental impacts, identifying a strategy to guide implementation and an on-going stakeholder engagement program. Together, the findings from these pre-planning activities constitute the Preliminary Recommended Plan which is presented herein for Transit Committee and Council approval.

Federal Environmental Assessment Process

As the Preliminary Recommended Plan requires the use of federal (NCC Greenbelt) lands, this project must also comply with the requirements of the CEA Act. Accordingly, the NCC is required to complete an environmental screening of this project to determine the significance of potential environmental effects. The City has been working closely with the NCC throughout the pre-planning phase to ensure coordination between provincial and federal EA processes per the Canada-Ontario Agreement on Environmental Assessment Cooperation. All environmental inventories and investigations have been sufficiently scoped to satisfy the requirements of both processes and to avoid unnecessary duplication of effort. As the study progresses, the City will continue to work cooperatively with the NCC to ensure the project satisfies the requirements of the CEA Act.

ANALYSIS

Project Need

To support the growth management objectives established in the Official Plan (OP), the City of Ottawa has established the strategic goal of increasing the peak-hour transit modal split from 23% to 30% by 2031. To help achieve this objective, the 2008 Transportation Master Plan includes a plan for a network of inter-linked rapid transit corridors including a downtown tunnel and incremental extensions to urban centres outside of the Greenbelt. Due to concerns associated with operating buses in mixed traffic on Highway 417, the network segment from Bayshore Station to Moodie Drive was identified in the TMP as a Phase 1, Increment 1 project subject to immediate implementation provided the availability of funding.

Implementing the Preliminary Recommended Plan outlined in this report will help the City achieve its 30% transit modal split objective by improving service reliability between downtown and the west urban community in the peak hour in both directions by removing buses from mixed traffic on Highway 417. Due to the configuration of the Highway 417/416 interchange and the recent installation of a protective barrier to prevent the unsafe weave of northbound 416

traffic exiting to Moodie drive, both eastbound and westbound Transitway buses must now operate in mixed highway traffic between Bayshore Station and Moodie Drive. In a mixed traffic environment, congestion increases the potential for delay and thereby reduces the reliability of transit service. Eastbound travel times in this segment of the transit network have been shown to vary by as much as 5 minutes in the peak period.

Transit service reliability is an important measure of service quality and has a direct influence on passenger demand. If passengers cannot depend on buses arriving on schedule, it means that they must spend more time waiting at the stop to ensure that they arrive at their destinations on time. Furthermore, studies have shown that the perceived time passengers spend waiting at a stop is longer than the actual wait time, which is attributable to the inherent uncertainty associated with waiting. To improve service quality from the customer's perspective, therefore, emphasis must be placed on reducing the inconsistency of service. Implementing an exclusive Transitway will increase reliability, reduce waiting times, reduce perceived travel times and lead to increased transit ridership.

Furthermore, as specified in the TMP, a station at Moodie Drive will improve accessibility to transit for residents and employees in the broader study area by facilitating the transfer of passengers between transit routes and between transit and other modes such as walking, cycling and private automobile.

Description of the Recommended Plan

As illustrated in **Document 1**, the West Transitway Extension from Bayshore Station to West of Moodie Drive Preliminary Recommended Plan comprises two 4.0 m lanes and two 2.5 m paved shoulders. The Transitway is for exclusive transit use and is grade-separated at both Holly Acres Road and Moodie Drive. A rapid transit station with local access from Corkstown Road is provided just east of Moodie Drive. Near-term and interim project configurations which achieve deferral of the Moodie Drive grade separations are detailed in the Implementation Plan subsection of this report.

Transitway Alignment

From the east, the Transitway exits Bayshore Station and passes over Holly Acres Road via a new grade separation (bridge). The existing Holly Acres northbound to Highway 417 westbound on-ramp has been relocated approximately 30m to the south to simplify construction staging and eliminate the requirement for an additional Transitway structure over the ramp. The existing local bus access ramp from Holly Acres Road to Bayshore Station will be maintained.

The local transit access ramp to Bayshore Station and the relocated highway on-ramp will operate as a single, signalized intersection to ensure safe and efficient crossings for pedestrians and cyclists.

Further west, the Transitway is located immediately adjacent to the westbound Highway 417 lanes. The Transitway lanes will be separated from Highway 417 by a concrete barrier incorporating elements to reduce headlight glare for oncoming vehicles. Through the main treed portion of the Stillwater Creek Valley, a 750m long retaining wall will be installed on the northern edge of the Transitway to contain the facility entirely within the existing MTO right-of-

way and prevent encroachment into Greenbelt lands. Through this area (from Bayshore station to ~550m east of Moodie Drive), direct impacts to the Stillwater Creek Valley or the Watts Creek Recreational Pathway are not anticipated.

Just east of Moodie Drive, the Transitway passes through a proposed transit station at Corkstown Road (described below) before continuing through the Moodie Drive interchange via grade separations (bridges) under: the existing Highway 417 westbound to Moodie Drive off-ramp; the existing northbound Moodie Drive to Highway 417 westbound on-ramp; and Moodie Drive itself (3 structures).

West of Moodie Drive, the Transitway connects to the approved WUC EA Transitway alignment on the north side of the Queensway crossing the Greenbelt to Kanata.

It should be noted that the Preliminary Recommended Plan has been designed so as not to preclude potentially constructing a ‘flyover’ west of Moodie Drive connecting eastbound buses (travelling on bus-only shoulder lanes on Highway 417) to the Transitway. This ‘flyover’ bridge would remove the need to operate buses on Moodie Drive in the interim, but is not recommended within the current planning horizon (to 2031). The feasibility and usefulness of this structure is dependant on the City’s timeline for constructing an exclusive Transitway across the Greenbelt which is currently unknown. The need for this bridge should be monitored as part of future TMP updates.

Transitway Station

A station is proposed immediately east of Moodie Drive. It is located on federal lands and requires approximately 1.0 ha of NCC Greenbelt property. Local bus access to the station is via Corkstown Road providing Transit Services with the flexibility to terminate/turn around local and shuttle bus services at the station. A small “kiss-and-ride” facility is also proposed adjacent to the station on Corkstown Road in order to improve community access to rapid transit.

The preliminary architectural concept for the station is illustrated in **Document 1**. All pedestrian crossings at the station are proposed to be at grade, safely placing pedestrians at the head of each platform. This eliminates the capital cost of elevators and a pedestrian overpass, as well as their maintenance costs. Instead, the station has a low shelter over each of the platforms and a canopy to provide weather protection while crossing the Transitway. This modestly-sized station has been designed to allow for future conversion to LRT.

To soften the visual impact of the buildings in this agricultural setting, it is proposed that each roof at the station be vegetated. These ‘green’ roofs will also reduce the amount of summer heat that is experienced at transit stations. Timbers, proposed for most of the structural support instead of steel or concrete, were chosen for their durability and strength as well as their pleasing aesthetic quality. Wood is also proposed to be used at other locations not exposed to the weather, such as the ceilings of the platform canopies. Glass shelters under the canopies will provide weather protection for waiting passengers. Natural stone walls will encircle the planting beds on the platforms and natural stone may be used in retaining walls. The overall effect of the design and materials is a reflection of the agricultural landscape, making this a unique station in a unique setting.

As the study progresses through EA and design phases, the architectural concept will be further refined in consultation with the NCC, Transit Services, and the general public.

Pedestrian and Cycling Network

Through the consultation process, a number of existing and potential future pedestrian and cycling issues and priorities were identified. Specifically, the Roads and Cycling Advisory Committee (RCAC) has requested that six recommendations be addressed as part of this study. On June 14, 2010, members of the Study Team met with a representative from the RCAC to further explore the issues and receive input and feedback on potential solutions. Based on input received at this meeting and further consultation with the general public and Technical Advisory Committee (TAC), a number of elements have been incorporated into the Preliminary Recommended Plan to enhance the existing pedestrian and cycling environment and address RCAC recommendations. The recommendations, and elements incorporated in the project to address them, are set out below.

1. *Provide facilities for safe and efficient cycling along the sections of Moodie Drive, Holly Acres Road, and Corkstown Road that will be subject to new or increased bus or 'kiss & ride' traffic;*

The existing Moodie Drive bridge over Highway 417 (connecting Crystal Beach/Lakeview to Bells Corners) has no sidewalk and substandard cycling lanes (less than 2.0 m) situated between vehicular travel lanes. To address these deficiencies, the following features have been included in the Preliminary Recommended Plan:

- Removing one traffic lane in the southbound direction to allow widening of the southbound cycling lane from 1.5m to 2.0m and providing a new 3.0m (bi-directional) multi-use pathway on the west side of the bridge (providing a multi-use connection across Highway 417);
- Relocating both northbound and southbound cycling lanes to the outside (shoulders) of the bridge to reduce the likelihood of vehicle-bicycle conflicts at the highway on-ramps and eliminate the need for cyclists to perform "shoulder checks" and yield to vehicles as they cross the outside lanes to the ramps which is required under existing conditions; and
- Providing "bike boxes" at the Moodie Drive / Highway 417 westbound on and off-ramp intersections in order to give cyclists priority. For a description on how bike boxes work, visit <http://www.portlandonline.com/transportation/index.cfm?&a=185112&c=34811>. It should be noted that the City will be conducting a pilot project of "bike boxes", and if the pilot project is successful and adopted by the City, then it could be implemented on this project.

Near Holly Acres Road, a new multi-use pathway connecting Aero Drive to Holly Acres Road will provide improved community access to the existing Watts Creek Recreational Pathway and Bayshore Station. To enhance pedestrian and cyclist connectivity, the existing asphalt sidewalk on the west side of Holly Acres Road will be upgraded to a 3.0 m wide multi-use pathway as will the existing sidewalk connecting Holly Acres Road to Bayshore Station.

2. *Provide a continuous and direct multi-use pathway to link the Watts Creek Pathway (at its crossing of Corkstown Road) to Moodie Drive (at the southern limit of its interchange*

with the highway);

Immediately east of Moodie Drive, the proposed Transitway station requires relocating and reconfiguring the existing Watts Creek Recreational Pathway. This reconfiguration provides an opportunity to introduce a number of enhancements including:

- A direct connection to the station including covered bicycle storage facilities;
 - A direct connection to the existing pathway north of Corkstown Road;
 - A new direct connection to on-road cycling facilities and the proposed multi-use pathway on Moodie Drive (described above) at the Highway 417 off-ramp signalized intersection; and
 - A new direct connection to Corkstown Road west of Moodie Drive.
3. *Ensure that any realignment forced upon the Watts Creek Pathway's section on the south side of Corkstown Road will maintain a direct connection with existing or extended pathway on the north side of Corkstown Road;*

As noted above, the reconfiguration of the Watts Creek Recreational Pathway east of Moodie Drive (and south of Corkstown Road) incorporates a direct connection to the existing pathway north of Corkstown Road.

4. *Provide a user-initiated stoplight at the interim Transitway crossing at all intersections for users of the multi-use pathways;*

The Preliminary Recommended Plan includes pedestrian and cyclist crossings of major roadways at signalized intersections where safe crossing under traffic control can be made. In addition, the near term (at-grade) Transitway configuration at Moodie Drive includes bike boxes, which provide cyclists with an opportunity to safely congregate and cross the intersection in advance of automobile traffic, thereby giving cyclists priority at intersections.

5. *Include the RCAC in the review of preliminary and detailed designs for the interim and ultimate configurations of this project;*

These proposed measures to enhance pedestrian and cycling facilities in the study area will be further refined as the study progresses through the EA and detail design phases in consultation with the RCAC, the local community and other interested stakeholders.

6. *Accommodate the safe passage of active transportation users during the construction phases.*

The construction contract documents will include provisions that ensure that cycling and pedestrian connectivity is maintained during construction.

Implementation Plan

The Preliminary Recommended Plan described above represents the ultimate, long-term plan for a fully grade-separated Transitway facility. Policy 5.2.2 (3) of the TMP, however, directs staff to

defer the cost of grade-separating rapid transit elements by introducing measures that improve reliability by incrementally introducing enhancements to isolate transit from mixed traffic.

In accordance with this direction, a number of implementation strategies were developed, assessed and evaluated to determine whether the construction of grade separations at Holly Acres Road and/or Moodie Drive could be deferred until a future date. This analysis concluded that, while the grade separation of Holly Acres Road is required in the near term, the construction of three structures at the Moodie Drive interchange can be deferred until at least 2021. For more information regarding the implementation plan, see **Document 5** and supporting appendices.

While an at-grade crossing of Holly Acres Road was found to provide an acceptable level of service from a traffic perspective, the grade separation is recommended in the near-term to avoid future transit operational impacts and impacts to the adjacent community. Due to space limitations for an on-site Transitway detour and special constructability requirements (pre-loading), constructing this bridge in the future would result in significant disruptions to Transitway service, including potentially requiring detouring all westbound buses from Bayshore Station to Highway 417 via Carling and Moodie or Richmond Road for a period of up to two years. Constructing the bridge concurrently with the mainline Transitway from Bayshore to Moodie avoids this significant operational impact. Furthermore, an at-grade crossing is expected to result in an increase in the frequency of ground vibrations due to the acceleration and deceleration of buses at the intersection. While existing vibration levels are not considered harmful to buildings, they are clearly perceptible (and found to be an annoyance) to adjacent residents. Any increase in the frequency of these vibrations, therefore, is undesirable and can be avoided by constructing the grade separation in the near-term.

As noted above, a near-term plan was identified that defers the cost of grade separating Moodie Drive (and construction of the ultimate Transitway Station at Corkstown Road) until a future date. This plan requires replacing the existing westbound Highway 417 to Moodie Drive northbound free-flow off-ramp with a double right turn at the signalized intersection and constructing a small, interim transit station at the intersection (see **Document 2**). Proposed improvements to pedestrian and cycling facilities on Moodie Drive (described in the previous subsection) would be implemented as part of the near-term plan to minimize potential conflicts associated with the at-grade Transitway intersection.

To determine the useful service life of this near-term (fully at-grade) intersection, the Level of Service (LOS) of specific traffic movements was analyzed. The analysis concluded that the at-grade intersection will begin to reach capacity by 2021, and when it does, the free-flow highway off-ramp must be re-instated. This requires grade separating westbound Transitway buses and constructing the long-term station at Corkstown Road. Eastbound buses can continue to operate on shoulder bus lanes west of Moodie Drive by using the existing Moodie Drive bridge to cross Highway 417 until the exclusive Transitway is constructed through the Greenbelt to Kanata (not anticipated before 2031).

This configuration, which provides a grade-separated crossing for westbound buses (illustrated in **Document 3**) was found to operate well beyond the 2031 planning horizon.

The Recommended Implementation of this project to the end of the current planning horizon (2031) is therefore as follows:

Table 1 - Proposed Project Phasing

	Timeframe	Description of Works	Estimated Cost (2010\$)
Phase 1	2011 to ~2021	<ul style="list-style-type: none"> • Construct exclusive Transitway from Bayshore Station to Moodie Drive; • Construct grade separation of Holly Acres Road; • Construct improvements to the existing multi-use pathway and on-road cycling network in the vicinity of Holly Acres Road and Moodie Drive; • Construct intersection modifications at Moodie Drive to accommodate Transitway termination; • Implement environmental mitigation measures; and • Construct interim station configuration at the at-grade Transitway intersection with Moodie Drive. 	\$29.2M
Phase 2	~2021 to Beyond 2031	<ul style="list-style-type: none"> • Construct grade separation of Moodie Drive for westbound Transitway buses. • Construct long-term transit station configuration at Corkstown Road. 	\$27.8M
End of Planning Horizon			
	Beyond 2031 <to be completed by others>	<ul style="list-style-type: none"> • Tie-in to future extension of the West Transitway from west of Moodie Drive to west of Eagleson Road. Alternatively, a new Transitway bridge could be constructed over Highway 417 west of Moodie Drive to connect eastbound buses travelling on highway shoulder lanes to the Transitway east of Moodie (this configuration would not be convertible to rail and would be a through away bridge when light rail is extended to Eagleson Road). 	TBD

Travel Time

By deferring the grade separation of Moodie Drive until at least 2021, the Phase 1 project configuration is not expected to reduce average in-vehicle travel times. In fact, given existing traffic volumes, the near term project is expected to result in a 46 second increase in average AM peak (EB) travel times and a 1 minute 25 second increase in average PM peak (WB) travel times. It should be noted however, that this increase in average travel time is due primarily to the requirement for Transitway buses to service the new transit station at Moodie Drive which is fully integrated with the multi-use pathway network and provides Transit Services with maximum operational flexibility thereby improving access to transit.

Furthermore, by removing buses from unpredictable mixed traffic on Highway 417, the near term (Phase 1) project will improve the reliability of transit service. In addition to containing operating costs, improved reliability lowers average passenger wait times, reduces bus crowding and ensures greater predictability. By improving predictability and decreasing wait times, perceived commute times are also reduced.

While average in-vehicle travel time does have an impact on ridership, research has shown that travelers are more sensitive to a reduction in wait times due to improved service reliability than they are to an equivalent reduction in in-vehicle times.

Therefore, the improved service reliability, reduction in average wait times, and accessibility to transit provided by the near term configuration is expected to outweigh the increased travel time and generate a net ridership gain which will be further augmented by the grade separation of Moodie Drive in Phase 2.

By grade separating Moodie Drive for westbound buses, the Phase 2 project configuration, (implemented sometime after 2021), is expected to result in average AM peak (EB) travel time savings of 41 seconds and PM peak (WB) travel time savings of 55 seconds. Finally, the fully grade separated Transitway (beyond 2031), is expected to result in average AM peak (EB) travel time savings of 2 minutes and average PM peak (WB) travel time savings of 1.5 minutes.

Environmental Considerations

(i) Vegetation and Wildlife:

The Preliminary Recommended Plan recognizes the importance of avoiding further encroachment into the Stillwater Creek Valley which is known to contain several regionally significant and regionally uncommon plant species.

To avoid encroachment, the Recommended Plan includes a 750m long retaining wall which contains the proposed West Transitway facility entirely within the Highway 417 right-of-way from Bayshore Station to approximately 550m east of Moodie Drive.

The direct removal of approximately 1.2 ha of vegetation located in the meadow area just east of Moodie Drive is required to accommodate the station at Corkstown Road. Overall significance of this meadow is considered relatively low based on the following:

- The meadow has relatively low botanical diversity and a high proportion of non-native species;
- Species of regional conservation concern located west of Stillwater Creek were transplanted as part of the ongoing 3W watermain project to a new wetland complex at the Fletcher Wildlife Garden. Seeds are being collected and will be distributed for use in other wetland areas;
- The meadow is isolated by Highway 417 to the south and Corkstown Road to the north and provides very limited wildlife movement opportunities;
- Wildlife habitat associated with the meadow area is common and well represented in the study area and adjacent lands; and

Retained vegetation will be protected from incidental disturbance during construction and a site restoration and planting plan will be implemented to replace removed vegetation with native plant species.

Significant impacts to vegetation and wildlife are therefore not anticipated.

(ii) Surface Water/Drainage:

The Preliminary Recommended Plan requires extending five existing culverts that currently convey flow under Highway 417. Aside from the crossing at the confluence of Tributary A (C3) with Stillwater Creek, all crossings are considered routine and impacts to fisheries and aquatic habitat can be successfully avoided through standard design and construction practices (embedding of culverts, provision of substrate, adherence to in-water timing restrictions, implementation of an erosion and sediment control plan, etc.).

Currently, Tributary A joins Stillwater Creek at C3 at a near 90 degree angle. This unnatural confluence, which was likely modified during the original highway construction, has led to bank erosion in Stillwater Creek. As part of the culvert extension at C3, the initial fluvial geomorphologic assessment has identified a preliminary concept to address existing erosion concerns by directing the tributary's energy downstream (instead of across stream). This concept will be further refined in consultation with the RVCA and the NCC to ensure that proposed modifications arrest on-going erosion at this crossing.

The community has identified a concern with the flooding of Stillwater Creek as experienced during a storm event in July 2009 during which flood levels breached the bank level and spilled over onto the sports fields east of Moodie Drive and north of Corkstown Road. City staff identified this storm as a 100-year event and, as such, a certain level of flooding and spill onto the overbank areas is expected as part of natural channel/valley functions. In addition, the existing culvert crossing under Corkstown Road had collapsed and therefore impeded flow. This culvert is being rehabilitated as part of the City's 3W watermain construction project.

To ensure this project does not negatively contribute to the flooding of Stillwater Creek, the Study Team is actively working with the RVCA to determine the overall Stillwater Creek floodplain, assess potential impacts and identify recommended mitigation measures. Mitigation measures may include stormwater management facilities to achieve quantity control, limiting development within the 100-year floodplain, and/or providing floodplain compensation for any losses to storage volume that may occur as a result of development. These measures will be incorporated into the Final Recommended Plan and documented in the EA Study.

From a stormwater quality perspective, the Final Recommended Plan will also incorporate treatment systems and employ best management practices (BMPs) to meet all criteria of the MOE Stormwater Management Planning and Design Manual (2003).

(iii) Groundwater:

Grade separating the Moodie Drive interchange will require a significant excavation which has the potential to impact ground water levels in the immediate vicinity of the cut. A preliminary hydrogeological assessment was carried out to determine the flow rate of groundwater into the proposed excavation and to estimate the extent of drawdown to the water table. To the extent possible, the vertical profile of the Transitway was raised to minimize potential groundwater impacts. Based on the functional design, the hydrogeological assessment predicts approximately 0.5 metres of drawdown to spring groundwater levels within approximately 15 to 30 metres from

the excavation (in all directions). No drawdown of summer groundwater levels is expected as the pavement subdrains are located above the expected summer groundwater levels.

Furthermore, preliminary groundwater modeling indicates that localized draw down of spring groundwater levels is not expected to impact water levels in Stillwater Creek, or negatively impact vegetation within the Stillwater Creek Valley to the east. Further investigation of the hydrogeologic conditions in the vicinity of Stillwater Creek will be carried out as part of the detail design study to verify the modeling predictions including confirmation of flow data, creek bottom elevations, top of water elevations etc.

(iv) Roadway Noise:

Existing noise levels were calculated at 25 receptor locations within the study area using traffic information provided by the City of Ottawa. Results of this analysis indicate that existing levels range from 48 to 63 dBA for daytime periods, and between 41 and 57 dBA for night-time periods. The highest noise levels occur at receptors closest to Highway 417, with levels diminishing with increasing distance from the noise source. In addition to theoretically calculated noise levels, at the request of the community, outdoor noise measurements were also performed at six locations representing outdoor living areas of residences backing on to Highway 417. In all cases, measured values were lower than theoretical values.

Existing noise levels were used to compare a Future Do Nothing scenario against a future scenario that includes an operational Transitway from Bayshore Station to west of Moodie Drive in the horizon year (2031). This analysis concluded that the contribution to environmental noise due to the Transitway is expected to range from 0.1 to 0.2 dBA and be indistinguishable from local background traffic noise in 2031. On opening day, the contribution of the Transitway would be less than 1 dBA which is significantly below the threshold of human sensitivity to noise level increases. The dominant source of roadway noise is, and will continue to be Highway 417. In accordance with the City's Environmental Noise Control Guidelines for Capital Works Projects (Surface Transportation Corridors), this predicted increase does not warrant noise attenuation (an increase of 5 dBA, and a total future noise level of > 60 dBA is required to meet the warrant). As the dominant noise source is the provincial highway, this project is not eligible for noise abatement as a local improvement as the City does not have authority over the noise source.

It is recognized however, that without noise attenuation, the projected growth in highway traffic will result in future noise levels that exceed 60 dBA at a number of receptor locations (this threshold is already exceeded in some areas). In response to this issue, the Ministry of Transportation (MTO) has identified two sites in the study area as candidate sites for their Retrofit Noise Barrier Program (extending from Bayshore Station to the east side of the berm and the west side of the berm to near the proposed station at Corkstown Road). While included on the retrofit list, due to the separation of receptors from the source of noise (highway) and the length of walls required, these sites were determined to have a low benefit to cost compared to more favourable sites in Ontario. The Ministry will continue to re-evaluate noise levels in this area to periodically update these sites placement on the Noise Barrier Retrofit List.

The Preliminary Recommended Plan has been developed so as not to preclude the installation of these barriers by MTO. To determine the most effective location for these barriers within the

future Highway 417/ Transitway cross-section, a number of scenarios were developed and analyzed. Table 2 presents noise levels predicted for:

- Future Do Nothing (FDN - no Transitway, no MTO noise barriers), 2031 traffic volumes;
- FDN with MTO highway barrier;
- Construction of Transitway with no noise barriers;
- Construction of Transitway with noise barrier built between Highway 417 and the Transitway; and
- Construction of Transitway with 5m Transitway noise barrier (between the Transitway and the community)

Table 2 – Summary of Total Noise Levels (Leq, dBA)

Scenario	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Receptor	Existing Condition	Future Do Nothing (FDN)	FDN With MTO Highway Barrier	Transitway Constructed - No Barriers	Transitway Constructed - With Highway Barrier	Transitway Constructed - With Transitway Barrier
5	57.2	59.3	56.3	59.2	56.6	58.0
7	57.1	59.1	56.6	59.1	56.7	59.0
10	58.1	60.0	56.6	59.9	56.7	58.7
12	58.2	60.1	57.9	60.1	58.0	60.0
14	63.0	64.3	56.1	64.2	57.9	57.3
15	60.1	62.3	55.5	62.0	57.5	56.3
18	60.5	62.4	55.6	62.4	56.9	56.6
20	58.8	61.1	55.1	60.6	56.1	55.9
23	57.7	59.6	52.4	59.5	52.3	52.5
25	62.5	64.8	61.9	65.5	62.0	62.0

This summary assumes a 5m high barrier and is intended for comparison purposes only (to determine relative effectiveness of different scenarios). This barrier height is consistent with that specified in the MTO retrofit noise barrier study completed in 2008.

This analysis illustrates that constructing the Transitway without noise barriers will not result in significant noise level increases over the Future Do Nothing scenario (i.e. the contribution to future noise levels from the Transitway will be indistinguishable from future highway noise levels). In terms of total noise exposure, although both barrier locations (Highway and Transitway) perform comparably, a barrier constructed along the Transitway would shield the community from impulse noises. In addition, the visual shield would reduce the overall perception of the Transitway's impact. A decision regarding the location of future MTO noise barriers will be made in consultation with MTO and the NCC as part of the design process.

The Crystal Beach/Lakeview community and ward councillor want to see the installation of noise barriers to shield their community from noise emanating from the Provincial Highway 417 and 417/416 Interchange.

If council elects to construct the noise barrier, the approximate cost (in 2010 dollars) is \$4M for +/- 1500m of noise barrier per the MTO locations (extending from Bayshore Station to the east side of the berm and the west side of the berm to near the proposed station at Corkstown Road). Alternatively, the approximate cost for installation of the noise barrier for the full length +/- 2900m is \$7.8M (in 2010 dollars).

(v) Ground Vibration

Existing ground vibrations due to vehicular traffic were measured at three locations in the study area. Peak recorded ground vibrations included 0.087 mm/s at location 1; 0.198 mm/s at location 2; 0.087 mm/s at location 3. Research indicates that the threshold level of human perception to vibrations is approximately 0.10 mm/s, while the threshold for annoyance due to continuous vibrations are 1.0 mm/s and the threshold for cosmetic building damage is 30 mm/s.

Consultation with the local community identified a potential concern with existing ground vibrations at Creek's End Lane east of Holly Acres Road. In response to this concern, existing vibrations were measured at a fourth receptor location. Peak recorded ground vibrations at this location were 1.08 mm/s at location 4.

Figure 2 - Location of Receptor 4



The following additional data was recorded at location 4.

0.442 mm/s	Bus turning right after stopping
0.459 mm/s	Bus pulling up to stop light
1.080 mm/s	Bus leaving stop light going straight
0.071 mm/s	Bus turning right without stopping
0.065 mm/s	Bus approaching stop, before decelerating
0.069 mm/s	Bus turning right without stopping
0.105 mm/s	Bus travelling through intersection without stopping

The measured data at location 4 indicates that the starting and stopping activities of the buses are responsible for vibration levels that qualify as perceptible in most circumstances, and as annoying occasionally. It is, however, important to note that the annoyance threshold of 1.0 mm/s refers to continuous vibrations, not intermittent vibrations that are characteristic of transit activities. The introduction of a semi-integral structure (without expansion joints) will result in an improvement to local conditions, as a direct result of the removal of constant starting and stopping activities at this location. The vibration levels will continue to be perceptible; however will remain significantly below the annoyance threshold (i.e. future vibration levels are expected to be comparable to the measured vibrations caused by a bus travelling through the intersection without stopping).

Property Requirements

The Preliminary Recommended Plan requires the following property:

Project Phase	MTO	NCC	Private Property
Phase 1 (2012 - ~2021)	5.5 ha	0.2 ha	0.2 ha
Phase 2 (~2021 to Beyond 2031)	0.0 ha	1.0 ha	0.0 ha

To the extent possible, the Preliminary Recommended Plan contains the Transitway within the Highway 417 right-of-way. In Phase 1, 5.5 ha of MTO property is required to accommodate the Transitway alignment. In addition, a small parcel (0.2 ha or 2000 m²) of NCC property is required just east of Moodie Drive (between Stillwater Creek and the westbound highway off-ramp). Finally, 0.2 ha of private property is required north of the existing access from Holly Acres Road to Bayshore Station to accommodate local bus, pedestrian and cyclist access to the station.

In Phase 2 (~2021), an additional 1.0 hectare of NCC property will be required to accommodate the proposed long-term transit station at Corkstown Road.

The NCC has indicated that a decision regarding the construction of a Transitway station in the Greenbelt will require amending their current Greenbelt Master Plan (GMP). The NCC has also indicated that this amendment must form part of the ongoing GMP Review Process. As the construction of Corkstown Station is not recommended before 2021, there is ample time for the City to work with the NCC to refine the configuration and architectural design of the station and facilitate its incorporation into the updated GMP.

Planning Process

The planning process developed for this study complies with Provincial and Federal EA requirements and includes considering a reasonable range of alternatives and evaluating alternatives based on an assessment of environmental effects. It has been fully integrated with the design process to ensure that decision making is phased, narrowing progressively to the selection of a recommended plan (Corridor Alternatives → Route Alternatives → Functional

Design). Consultation milestones have been scheduled to coincide with key decision making milestones in order to ensure stakeholder participation in the selection of the Preliminary Recommended Plan.

A detailed list of evaluation criteria covering all aspects of the environment was developed early in the study process and refined in consultation with stakeholders, review agencies and members of the general public.

Specifically, the planning process was designed to facilitate the identification of a Recommended Plan that:

- Is consistent with the City of Ottawa's vision and objectives for transit as identified in the approved 2008 Official Plan and Transportation Master Plan Update;
- Provides a cost-effective near-term solution to current operational concerns while not precluding plans for the ultimate westerly extension of the West Transitway to Kanata (including conversion to rail);
- Minimizes effects to terrestrial and aquatic ecosystems and processes and incorporates design measures to avoid and mitigate these effects;
- Minimizes effects on the adjacent community and avoids effects and incorporates design measures to avoid and mitigate these effects;
- Minimizes effects on Greenbelt lands (property requirements and effects to user experience etc.);
- Minimizes effects on provincial highway infrastructure;
- Supports municipal and federal land use planning objectives (transit oriented development, bundling of transportation corridors etc.); and
- Represents a responsible use of public funds.

Corridor Alternatives

The Queensway corridor was identified as the preferred corridor for extending the Transitway from the Southwest Transitway to Kanata beginning with the MOE approved *1996 West Transitway Extension EA from Woodroffe to Acres Road*. As part of that study, six basic east-west corridors were developed along major transportation facilities or corridors including: Britannia; Carling; Richmond; Baseline; Queensway and the CNR. Through an assessment of environmental effects and a comparative evaluation, the Queensway corridor was recommended as the technically preferred corridor from the Southwest Transitway to the CN Rail Underpass West of Moodie Drive. Building on the 1996 EA study, the *1997 West Urban Community Transit Integration and EA Study* evaluated alternative corridors for the westerly extension of the Transitway from Moodie Drive to Kanata. The analysis and evaluation again recommended the Queensway Corridor as the technically preferred rapid transit corridor extending from east of Moodie Drive to Terry Fox Drive. Subsequent transportation planning exercises completed by the former RMOC and the City of Ottawa including the 2003 Rapid Transit Expansion Study (RTES), 2003 Ottawa Rapid Transit Expansion Program (ORTEP) Implementation Strategy, and the 1997, 2003 and 2008 TMPs all recognized that the future westerly extension of the Transitway network would occur within the Queensway corridor.

Based on these previously approved studies, and due to the fact that the limits of the current assignment are contained entirely within the TMP approved Queensway Corridor, further assessment and evaluation of corridor alternatives was not required.

Route Alternatives

While a previously approved Transitway corridor has been defined in the study area, a recommended route has not been identified within the Queensway Corridor between Holly Acres Road and Moodie Drive. A review of the Queensway Corridor within the current study area identified four potential routes for this connection: Queensway North; Queensway Median; Queensway South; and Former Railway Corridor.

Through a comprehensive assessment of effects and comparative evaluation of route alternatives (see **Document 4** and supporting appendices), the Queensway North route was recommended.

The Former Railway route alternative was not carried forward due to significant effects to the Stillwater Creek Valley and the adjacent community that can not be avoided or mitigated through design. The Queensway Median route alternative was not carried forward due to constraints associated with the provision of a station at Moodie Drive and due to complications with the implementation of an interim project configuration terminating at Moodie Drive. As the Queensway South Route requires constructing two highway grade separations (one to connect to Bayshore Station north of the Queensway and another to connect to the approved Transitway west of Moodie Drive, also north of the Queensway), this alternative was estimated to cost \$35M to \$45M more than the Queensway North route. This expenditure was not considered to be a responsible use of public funds given the availability of another preferable route alternative.

The Queensway North route was recommended as it:

- Provides a cost effective interim solution to current transit service reliability issues by removing buses from mixed highway traffic and providing flexibility to potentially defer costly grade separations until warranted;
- Does not preclude plans to ultimately extend the West Transitway to Kanata (including conversion to rail);
- Presents an opportunity to attract new transit riders from nearby employment and residential areas;
- Borders the southern edge of the Stillwater Creek Valley thereby avoiding the majority of this natural feature;
- Maintains community access to the Watts Creek Recreational Pathway and provides an opportunity to improve multi-use pathway connections within the Transitway corridor;
- Does not result in significant noise impacts. The contribution to environmental noise from this route will be indistinguishable from local background traffic noise in the horizon year (2031). This route is expected to result in a 0.1-0.2 dBA increase over ambient noise levels. An increase of 3.0 dBA is considered to be just perceptible to most people. The dominant noise source in the study area is, and will continue to be, Highway 417;
- Minimizes effects on Greenbelt lands. To the greatest extent possible, the Transitway is clustered within the existing Highway 417 transportation corridor. Impacts to the NCC Greenbelt are limited to 1.2 ha property impact in the vicinity of Corkstown Road and the Highway 417 off-ramp which is required to accommodate the long-term Transitway Station;
- Avoids impacts to the main travelled portion of Highway 417 and the approximately 100,000 motorists that use this facility every day (both EB and WB); and

- Represents a responsible use of taxpayer dollars. The Preliminary Recommended Plan can be implemented within this route for an estimated capital cost of \$57M.

Preliminary Design Alternatives

To identify a preferred functional design, the Queensway North route was subdivided further into three distinct segments within which design alternatives were developed, assessed and evaluated in consultation with stakeholders, review agencies and the general public. Additional information regarding the assessment and evaluation of design alternatives, (including drawings depicting each design alternative) are included in **Document 5** and supporting appendices.

East Segment - Bayshore station to Graham Creek Tributary

In the East Segment, the following four design alternatives were identified:

- (i) Alternative A1: Under Holly Acres Maintaining Existing Ramp Intersection

Heading west from Bayshore Station, this alignment alternative passes *under* Holly Acres Road and *under* the Holly Acres southbound to Highway 417 westbound on-ramp which is maintained in its existing location.

- (ii) Alternative A2: Over Holly Acres Maintaining Existing Ramp Intersection

Heading west from Bayshore Station, this alignment alternative passes *over* Holly Acres Road and *over* the Holly Acres southbound to Highway 417 westbound on-ramp which is maintained in its existing location.

- (iii) Alternative B1: Under Holly Acres with Relocated Ramp Intersection

Heading west from Bayshore Station, this alignment alternative passes *under* Holly Acres Road and travels adjacent to the north side of the Holly Acres southbound to Highway 417 westbound on-ramp which is relocated 30m to the south.

- (iv) Alternative B2: Over Holly Acres with Relocated Ramp Intersection

Heading west from Bayshore Station, this alignment alternative passes *over* Holly Acres Road and travels adjacent to the north side of the Holly Acres southbound to Highway 417 westbound on-ramp which is relocated 30m to the south.

Alternative B2 is recommended for several reasons. It avoids significant effects to Graham Creek and/or its Tributary by crossing over Holly Acres Road, provides opportunities to improve pedestrian and cycling connectivity to Bayshore station and the broader network, will not perceptibly increase noise and ground vibration over ambient levels, requires only one structure over Holly Acres Road by relocating the existing highway on-ramp to the south, and avoids complex staging, constructability and maintenance issues associated with crossing under Holly Acres Road.

Central Segment - Graham Creek Tributary to Stillwater Creek Tributary A

Within the Central Segment, the following two design alternatives were identified:

- (v) Alternative A: Transitway North of Existing Highway 417 Westbound Lanes

This alternative locates the Transitway immediately adjacent to the existing Highway 417 westbound lanes. A barrier separates Transitway and highway lanes.

- (vi) Alternative B: Relocated Highway 417 Westbound Lanes

This alternative repurposes the two (northernmost) Highway 417 ramp lanes for Transitway use and requires the reconstruction of these ramp lanes in the highway median (thus resulting in a highway crown shift towards the median).

Alternative A was recommended as it avoids significant impacts to the travelling public and recently constructed provincial highway infrastructure whilst avoiding significant adverse environmental effects. By installing a retaining wall along the entire length of the Transitway through this segment, the footprint of Alternative A is maintained within the existing MTO right-of-way thus minimizing effects to the Stillwater Creek Valley. Conversely, removing and reconstructing the recently completed provincial highway infrastructure associated with Alternative B results in substantial ‘throwaway’ construction and significant traffic disruptions affecting approximately 40,000 to 50,000 people a day for up to 3 construction seasons.

West Segment - Stillwater Creek Tributary A to west of Moodie Drive

For the West Segment, the following four design alternatives were identified:

- (i) Alternative A1: Around the Moodie Drive Interchange and Under Moodie Drive with a Station at Corkstown Road.

This alternative aligns the Transitway *around* the Moodie Drive interchange (to the north) and passes *under* Moodie Drive before continuing west through the Greenbelt. A Transitway station serving both local and rapid transit services is located east of Moodie Drive with local access from Corkstown Road.

- (ii) Alternative A2: Around the Moodie Drive Interchange and Over Moodie Drive with a Station at Corkstown Station.

This alternative aligns the Transitway *around* the Moodie Drive interchange to the north and passes *over* Moodie Drive before continuing west through the Greenbelt. A Transitway station serving both local and rapid transit services is located east of Moodie Drive with local access from Corkstown Road.

- (iii) Alternative B1: Through the Moodie Drive Interchange and Under Moodie Drive with a Station on Moodie Drive.

This alternative aligns the Transitway *through* the Moodie Drive interchange and passes *under* Moodie Drive and associated highway ramps before continuing west through the Greenbelt. A transit station is incorporated into the Moodie Drive structure including local platforms on the bridge connected to Transitway platforms below by four elevator towers.

- (iv) Alternative B2: Through the Moodie Drive Interchange and Under Moodie Drive with a Station at Corkstown Road.

This alternative aligns the Transitway *through* the Moodie Drive interchange and passes *under* Moodie Drive and associated highway ramps before continuing west through the Greenbelt. A Transitway station serving both local and rapid transit services is located east of Moodie Drive with local access from Corkstown Road.

Alternative B2 was recommended as the direct alignment through (under) the interchange maximizes ride comfort and operational efficiency and the station at Corkstown Road provides enhanced accessibility, operational flexibility and design opportunities whilst avoiding significant adverse environmental effects.

Corkstown Station is fully integrated with the existing and proposed multi-use pathway network and is easily accessible from nearby employment and residential lands. Also as both local and rapid transit platforms are located at-grade, there will be increased station activity and visibility thereby reducing the sense of isolation for waiting passengers.

In addition to accommodating direct passenger transfers between local north and southbound services on Moodie Drive (projected to be 600 person trips in the am peak hour in 2031), by providing the ability to turn buses around at the station, Corkstown Station also avoids unnecessary deadheading and the associated costs to OC Transpo, passengers and the environment. Local access from Corkstown Road also provides an opportunity to introduce a small ‘Kiss and Ride’ on Corkstown Road to enhance transit accessibility for the local community.

RURAL IMPLICATIONS

This project is in the urban area of the City. However, improved transit service benefits residents from across the City.

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 study.

This consultation program includes Public Open Houses, meetings with a Technical Advisory Committee (TAC), meetings and presentations to City Advisory Committees and regular meetings with the Crystal Beach/Lakeview Community Association (CBLCA). Consultation activities leading up to the selection of a preferred Transitway Route are included in **Document**

4 and supporting appendices. Consultation activities pertaining to the development of the Preliminary Recommended Plan are included in **Document 5** and supporting appendices.

Public Open Houses

To date, three Public Open Houses (POH) have been held. A fourth POH is scheduled to occur as part of the formal EA approvals process.

POH #1 was held on June 25, 2009 to provide an introduction to the study, obtain input into the proposed planning process and present a preliminary assessment of proposed Transitway Route alternatives. POH #2 was comprised of two sessions (one in Kanata and one in Crystal Beach/Lakeview) on February 22 and February 24, 2010 respectively. This Open House was used to present the recommended route (Queensway North) and obtain input into the assessment of functional design alternatives within this route. POH #3 was held on June 24, 2010 and provided interested members of the public with an opportunity to review and provide input into the Preliminary Recommended Plan for the Transitway Extension including mitigation measures and potential implementation scenarios.

The POHs were advertised in both official languages in daily and weekly newspapers prior to each event. Information presented at the Public Open Houses (in English and French) was made available to members of the public via a secure FTP site established for the study.

Attendance at these events was as follows:

- POH #1 June 25, 2010 (Maki House): 88 individuals signed the register;
- POH #2a (Mlacak Centre): 41 individuals signed the register;
- POH #2b (Maki House): 58 individuals signed the register; and
- POH #3 (Maki House): 96 individuals signed the register.

A summary of comments and questions received at each Open House is provided in **Document 6**. Where appropriate, this valuable input was incorporated into the Preliminary Recommended Plan.

Technical Advisory Committee (TAC) Meetings

A Technical Advisory Committee (TAC) was established early in the study to provide guidance and seek resolution regarding specific technical and regulatory issues. TAC members include representatives from the National Capital Commission (NCC), the Ontario Ministry of Transportation (MTO), the Rideau Valley Conservation Authority (RVCA), OC Transpo, and internal City staff departments. To date, six TAC meetings have been held to coincide with key project milestones (Study Introduction; Route Identification; Route Selection; Identification of Functional Design Alternatives; Evaluation of Functional Design Alternatives; and Selection of Preliminary Recommended Plan).

In addition to formal TAC meetings, individual meetings have also been held with representatives from the NCC (June 30, September 8, December 18, 2009 and May 19, 2010), MTO (September 2, 2009 and January 10, 2010) and the RVCA (April 27, 2010) to discuss specific project issues and ensure ongoing dialogue throughout the planning process

City Advisory Committees

On (March 22, 2010), study team representatives presented an overview of the project to the Ottawa Forest and Greenspace Advisory Committee (OFGAC) in an effort to provide committee members with sufficient information to provide input and help refine the proposal. A written response to questions and concerns identified by the OFGAC was also provided following the meeting. Study Team members also met with a representative of the Roads and Cycling Advisory Committee (RCAC) on June 14, 2010 to obtain feedback on proposed modifications to on-road cycling facilities at Holly Acres Road and Moodie Drive.

Crystal Beach Lakeview Community Association (CBLCA)

The CBLCA represents the community immediately adjacent to, and north of, the study area. To date, the following meetings have been held with representatives from the CBLCA at key project milestones:

- April 30, 2009: Study Introduction;
- September 1, 2009: Assessment of Route Alternatives;
- November 2, 2009: Present Route Selection Report;
- January 12, 2010: Discuss Comments on Route Selection Report;
- February 4, 2010: Present Functional Design Alternatives; and
- June 16, 2010: Preliminary Recommended Plan.

The purpose of these meetings was to present information, answer questions and obtain valuable input into specific aspects of the planning and design process. At the request of the community, whenever possible, draft study deliverables have been circulated to the CBLCA and feedback has been incorporated into study documentation. These informal, interim public reviews have provided valuable input into the process and have facilitated the identification of key issues requiring follow up throughout the study.

Modifications Brought About Through Consultation

Input received through the study consultation efforts provided valuable guidance towards the development of a Preliminary Recommended Plan. Specifically, the following modifications were incorporated into the plan as a direct or indirect result of effective and constructive stakeholder engagement.

East Segment

- Upgrading the existing asphalt pathway on the west side of Holly Acres Road to a 3.0 multi-use pathway to improve access from the community to Bayshore Station; and
- Providing a new multi-use pathway connection from Aero Drive to the Bayshore Transitway Station.

Central Segment

- Installing a 750m long retaining wall (varying from 1 to 2.5m in height) along the entire length of the Stillwater Creek Valley to avoid encroachment into Greenbelt lands and ensure the Transitway is maintained within the Highway 417 right-of-way. This retaining wall will be designed to accommodate an MTO noise barrier.

West Segment

- Reducing the footprint of the local transit component of the proposed station at Corkstown Road to avoid potential impacts on Stillwater Creek;
- Adjusting the vertical profile of the Transitway near Moodie Drive to minimize potential impacts to the groundwater table;
- Providing a new multi-use pathway connection from the existing Watts Creek Recreational Pathway to existing on-road cycling facilities on Moodie Drive itself, and on Corkstown Road west of Moodie Drive;
- Removing one southbound lane on the Moodie Drive bridge over Highway 417 to accommodate upgrades to existing on-road cycling lanes and the provision of a 3.0 m multi-use pathway across the bridge connecting Crystal Beach/Lakeview to Bells Corners; and
- Providing a small 'Kiss-and-Ride' facility on Corkstown Road to improve community access to the proposed station at Corkstown Road;

COMMENTS BY THE WARD COUNCILLOR

This EA Study has proved to be contentious in the nearby community of Crystal Beach-Lakeview, as concerns were expressed by residents about the need for such a Transitway extension near their neighbourhood, the impact of the WTE on the Trans-Canada bike path, the impact of the WTE on the Stillwater Creek forest, and most importantly noise. I am pleased that the recommended proposal avoids impacting on the Stillwater Creek forest and the Trans-Canada bike path through its location on MTO lands as part of the 417 corridor. However, noise remains a major issue for the community, and justifiably so.

It is clear that, given the existing noise levels emanating from the 417, the addition of the Transitway in this corridor will increase noise levels very modestly (below the City's noise criteria). However, there is a requirement for noise barriers to deal with the existing noise levels which the MTO has recognized, and the opportunity to provide them through constructing this Transitway Extension from Bayshore to Moodie Drive (crossing the south side of the residential community of Crystal Beach-Lakeview). Consequently I will be proposing that the City construct the noise barriers as part of this project, and recover the costs from the MTO in due course.

LEGAL/RISK MANAGEMENT IMPLICATIONS

There are no Legal/Risk Management impediments to implementing this report's recommendation.

CITY STRATEGIC PLAN

The recommendation contained herein aims to support the following Strategic Directions adopted by Council on 11 July 2007:

- A1 Improve the City's transportation network to afford ease of mobility, keep pace with growth, reduce congestion and work towards modal split targets.
- B1 Attain transit goals (30 per cent modal split) by 2021.
- E6 Require walking, transit and cycling oriented communities and employment centres.
- F4 Ensure that City infrastructure required for new growth is built or improved as needed to serve the growth.

TECHNICAL IMPLICATIONS

N/A

FINANCIAL IMPLICATIONS

Recommendation 1 - Subject to further assessment and detailing of the design work, the estimate for the Phase 1 project is \$29.2 million (2010 dollars). Phase 2 of the project (beyond 2021) is estimated to cost an additional \$27.8 million (2010 dollars) for the grade separation of Moodie Drive (for WB buses) and the construction of the long-term station at Corkstown Road.

The full build-out of the Preliminary Recommended Plan to 2031 is therefore estimated to cost \$57 million (2010 dollars).

The ultimate tie-in to the future extension of the West Transitway across the Greenbelt is not included in this estimate as there is no timeframe for implementation (beyond 2031). As the mainline Transitway and all grade separations will be constructed as part of Phase 1 and Phase 2, the cost associated with the tie-in are not expected to be high. The cost of the tie-in would be included in the future construction contract to extend the West Transitway from west of Moodie Drive to west of Eagleson Road.

Cost estimates will form part of the Long-Range Financial Plan, which will be tabled later this year. Funds will be requested, at the appropriate times, through the capital budget process.

Recommendation 2 - Funding for the Transit Project Assessment Process is available within 904482 West Transitway (Bayshore Stn. to Moodie).

SUPPORTING DOCUMENTATION

Document 1: Preliminary Recommended Plan

Document 2: Near Term (at-grade) Intersection with Moodie Drive (2012 to ~2021)

Document 3: Partial Grade Separation of Moodie Drive (2021 to beyond 2031)**Document 4: Assessment of Effects and Comparative Evaluation of Route Alternatives**

Appendix A:	Transportation Review
Appendix B:	Operational Review of Median Route Alternative
Appendix C:	Stage 1 Archaeological Assessment
Appendix D:	Existing Roadway Noise, Air Quality and Ground Vibration Analysis
Appendix E:	Field Noise Measurements
Appendix F:	Subsurface Conditions Report
Appendix G:	Phase I Environmental Site Assessment
Appendix H:	Preliminary Characterization of Natural Environmental Features
Appendix I:	Preliminary Route Concepts, Property Requirements and Cost Estimates
Appendix J:	Future Noise Level Comparison of Route Alternatives
Appendix K:	Meeting Minutes (January 2009 to February 2010)
Appendix L:	Summary Report for POH #1

Document 5: Development of the Preliminary Recommended Plan

Appendix A:	Assessment and Evaluation of Design Alternatives
Appendix B:	Constructability/Operational Review of Central Segment Alternative B
Appendix C:	Assessment and Evaluation of Near Term/Interim Transitway Configurations
Appendix D:	Traffic Analysis – 2031 Planning Horizon and 2021 Interim Year
Appendix E:	Summary Report for POH #2 and POH #3
Appendix F:	Meeting Notes (February 2010 to August 2010)
Appendix G:	Preliminary Hydrogeological Assessment
Appendix H:	Comparison of Future Noise Barrier Options
Appendix I:	Transit Travel Time Savings

Document 6: Summary of POH CommentsDISPOSITION

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 fourth 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 associated with Phase 1 works, including the consideration of cumulative effects associated with future phases; and
- A detail design and construction tender package, including all required permits and approvals will be prepared for Phase 1 works.