Executive Summary

Introduction

This functional design report is the culmination of the Marion Street Corridor Improvements Study. The following executive summary notes the findings and design recommendations in line with the major sections/chapters of the report. The data herein is expected to form the foundation of future preliminary and detailed design programs, eventually culminating in construction of the improvements described herein.

The Marion Street Corridor operates as a primary link into the south side of the Downtown Core of the City of Winnipeg from the east portion of the city. It attracts trips from most areas east of the Red River, particularly east of St. Anne's Road and the Seine River. The Marion-Goulet couplet specifically serves a dual function – both as a major city route connecting neighbourhoods and transporting people, goods and services, and also as a neighbourhood main street accommodating a mix of users, and functioning as a place to live, work and play.

Project Background

Over the course of multiple decades, numerous transportation planning studies have been completed for Marion Street with differing goals and objectives. In 1974 the City developed an alignment for a grade separation of Marion Street at Canadian Pacific Railway (CPR) Emerson (at Archibald Street). Then, in 1984, the alignment was revised to provide a more direct routing for Metro Route 115 commonly referred to as the Marion-Dugald Connection. This alignment included an interchange north of the Marion/Archibald intersection with an overpass of the CPR Emerson line connecting directly to the west end of Dugald Road. Over the years, the City has acquired some property along this proposed alignment; however, no construction projects have been completed.

In 2011 City Council approved the Winnipeg Transportation Master Plan (TMP) which identified improvements to Metro Route 115 from Archibald Street to Lagimodière Boulevard as a short-term major road network improvement. The TMP also identified the Marion Street/Goulet Street couplet (hereby referred to as the Marion/Goulet couplet) as a Transit Quality Corridor and described several proposed additions to the Active Transportation (AT) Network within the study area. In 2016, the "Marion Street Functional Design Study" was completed with recommendations including widening Marion Street to six lanes between Youville Street and Lagimodière Boulevard and realignment of Route 115 along Panet Road to connect Marion Street directly with Dugald Road. A grade separation of Marion Street was proposed at Archibald Street along with a rail underpass at CPR Emerson.

The 2016 functional design study recommendations required a large amount of land acquisition with significant disruption to commercial and residential land uses, significant impacts to Happyland Park, and a cost of over $500 million to implement. Although the changes met many of the project goals of improving traffic flow and safety, the project did not move forward due to excessive cost, scale and intrusiveness of the project in the community.

In November 2016, Council directed the City's Public Works Department to find cost-effective ways to address transportation limitations along Marion Street including improvements to the accommodation of pedestrian and cyclists and improvements to safety and traffic operation at key intersections; while minimizing land requirements.

To achieve these objectives, the project scope was expanded to encompass interrelated areas within the neighbourhood, each with unique transportation uses and needs. This included the area west of Youville Street along Goulet Street and Marion Street to St. Mary's Road. The land use within the Marion/Goulet couplet is a mix of commercial retail and residential, with different priorities and impacts than other locations with the Project limits.

In early 2020, Dillon Consulting Limited (Dillon), along with our sub-consultants Urban Systems Limited, HTFC Planning and Design (HTFC), Stantec, AECOM and TREK Geotechnical Inc. (TREK), was awarded the Marion Street Corridor Improvements Study (hereby referred to as the Marion Corridor Study or simply the "study").

Moving on Marion Street

Parallel to the Marion Corridor Study, the City undertook an engagement strategy to solicit input, feedback and updates. In 2019, the City of Winnipeg conducted a pre-project Public Engagement program named Moving on Marion Street with the City's Office of Public Engagement. The aim of the engagement program was to receive input from Winnipeggers to refine the study's objectives. The input from the Moving on Marion Street Public Engagement Program set the foundation for the Marion Corridor Study objectives prior to issuing the Request for Proposal (RFP) to consultants. The Phase 1 – Pre-Engagement phase commenced in June 2019. to address community engagement needs. The input through the Phase 1 Pre-engagement process set the foundation for the Marion Corridor Study. Results from the 2019 engagement program confirmed the direction of the study and helped identify areas where improvements are needed or could be most impactful.

After the Phase 1 – Pre-Engagement, the RFPs for the Marion Corridor Study RFP 888-2019 and the "Public Engagement Services for the Marion Street Corridor Improvements Study" RFP 887-2019 (hereafter known as the Moving on Marion Engagement Program (MoM) were awarded to Dillon and HTFC respectively. The awards were in early 2020 with both building off what the City heard during Phase 1 public engagement.

Further details of the Moving on Marion program are found in **Section 12.0** and **Appendix A** and **N**.

In summary, Phase 2 engagement occurred in April 2022 after the Marion Corridor Study conceptual options were developed. The outcomes from Phase 2 were incorporated into the evaluation of Conceptual Designs and to determine which designs should be continued for the Functional Design.

The final phase of engagement, Phase 3 Stakeholder Meetings, Public Event and Online Engagement-Verification Session for the Moving on Marion Street was held in March 2023. The design options heard during Phase 2 were updated with a functional design presented. The outcomes from Phase 3 were reviewed by the design team and the City to determine which elements should be included within the preferred Functional Design.

Project Goals

The Marion Corridor Study aims to improve the community livability for AT, neighbourhood connectivity and vehicular traffic flow, for all modes to co-exist in a safe environment. This proposed functional design for the Marion Corridor Study will improve transportation deficiencies with a complete streets design approach, ensuring facilities are safe, comfortable and welcoming for all users. Specific elements of improvement include:

- Urban design approach to the residential and commercial retail land use area including traffic calming features, larger welcoming pedestrian facilities and cycling accommodations, specifically for the Marion and Goulet one-way couplet streets area;
- Improvements to pedestrian facilities for comfort and safety;
- Improvements to existing cycling facilities for comfort and safety;
- New cycling facilities to close gaps within the cycling network;
- Design of an AT system linking St. Mary's Road with Lagimodière Boulevard or existing/planned AT infrastructure in the eastern portion of the study area;
- At-grade intersection and roadway/access improvements from Youville Street to Lagimodière Boulevard;
- Geometric upgrades to Youville Street for improved safety;
- At-grade rail improvements to Marion and CP Emerson Subdivision rail crossing;
- Incorporates plans of new developments within the project area;
- Intersection safety improvements to the Marion Street, Panet Road and Dawson Road intersections;
- Geometric improvements on Lagimodière for improved flow and safety (six-laning);
- Assessment of pavement condition and recommendations for renewal along of the four-lane roadway; and
- A functional design which minimizes land requirements.

A main focus while undertaking the Marion Corridor Study was to create a functional design that is budget conscious, can be undertaken in the next five to ten years, and excludes any major road and rail underpass or overpass structures. Property acquisition and land required has been kept to a minimal amount to achieve the project goals.

Study Area

The recommended improvements are encompassed around and adjacent to Marion Street (Route 115) area from St. Mary's Road to Lagimodière Boulevard. The study limits include the following roadways: St. Mary's Road, Marion, Goulet, Eugenie, Edgewood, Tremblay, Youville, Archibald Streets, Panet Road, Lagimodière Boulevard and Dugald Road, among others.

Project Organization

Over time during the study, the project organization evolved. Building on the requirements of the RFP, the conceptual and functional design stages divided the project area into five regions. This was due to diverse land-uses, geographic specific features, and gaps between the major roadway improvements areas. They generally correspond to the four identified roadway improvements study areas plus the Marion-Goulet couplet in the Complete Streets study area. Each region was studied independently, while ensuring alternatives do not preclude adjacent designs. A region could be further designed and constructed independently of the others. These five regions and their approximate limits are listed in **Table ES-1**.

Table ES-1: Project Regions

Region Name	Limits
Region 1: Marion-Goulet Couplet	St. Mary's Road from the Norwood Bridge to Eugenie Street. Marion – Goulet Couplet from St. Mary's Road to 50 metres (m) west of Youville Street. (Note: Portions of the conceptual, but ultimately not selected Option 3 Neighbourhood Greenway AT are within this region. This includes Eugenie/Edgewood from St. Mary's Road to the Seine River).
Region 2: Youville	Youville Street from Goulet Street to Marion Street. Marion Street from 50 m west of Youville to the Seine River. Goulet Street from 50 m west of Youville to Youville.
Region 3: Marion-Archibald	Marion from the Seine River to Nicolas Avenue. Archibald from Tremblay Street to Giroux Street. (Note: Portions of the conceptual, but ultimately not selected Option 3 Neighbourhood Greenway AT are within this region. This includes Tremblay/Evans/Prosper from the Seine River to Archibald Street). (Note: The MRS-D improvements on Marion Street are illustrated between Nicolas Avenue to the CPR Emerson rail line).
Region 4: Panet-Dawson	Marion from the CPR Emerson rail line to Turenne Street. Dawson Road from 150 m south of Marion to 60 m north of Panet Road. Panet Road from Marion Street to 50 m northeast of Dawson Road.
Region 5: Marion-Lagimodière-Dugald	Marion Street from Turenne Street to Lagimodière Boulevard. Lagimodière Boulevard from Dawson Road to 250 m north of Dugald. Dugald Road from Holden Street to CNR Sprague Overpass.

Also of note is the relationship with the Public Markets Major Redevelopment Site "D" (MRS-D). This area is noted in the OurWinnipeg – Complete Communities guidance document as a major site opportunity to repurpose obsolete land uses as new developments. The Marion Corridor Study team shared information with the MRS-D planning and design team such that improvements would be complementary and take into account the MRS-D, specifically along the frontage of Marion Street between Nicolas Avenue and the CNR Sprague line. Geometric improvements proposed by the MRS-D team were used in this frontage area and are not directly part of the Marion Corridor Study.

Site Reconnaissance

Significant items of note relating to this section include:

- On-street parking inventory was undertaken as a baseline, including specific locations, length of parking areas, time constraints and loading zones;

- Municipal assets including sewers, watermains, large diameter feedermain and forcemains, and the aqueduct were reviewed. This provided insight into issues and conflicts, and ultimately fed into the conceptual and functional designs;
- The project areas are located in combined sewer districts. As the Environmental Act License requires that the City not increase the frequency or volume of combined sewer overflows due to new and upgraded land development activities, the improvements recommended herein must abide by that requirement. Most require an increase in impervious (hard surface) area, hence upgrades to the storm water system are necessary first;
- A corridor safety review was undertaken to document potential road safety issues along the study site and to serve as an input into the design process, including design option development, options analysis and the selection of other road improvements. Of note, there are major opportunities for safety improvements at the Marion Street and Archibald Street intersections, as well as those along Lagimodière in the study area. AT users are poorly accommodated throughout the corridor, and right-angle cyclist collisions were observed in higher proportions within the Region 1: Marion-Goulet couplet;
- The four culvert structures located in the Dugald Drain in the vicinity of the Archibald Street and Marion Street intersection were inspected. The Archibald Street Box Culvert originally constructed in 1980 is in fair condition, but urgent maintenance work is not required yet. The Tim Horton's Private Approach Culverts are relatively new and in good condition. The CPR Emerson Subdivision Crossing was constructed in 1913 and is in poor condition. However, it is not a City owned asset. Finally, the Marion Street Box Culvert was constructed in 2009 and is in generally good condition;
- Considering that any major alterations to the existing structures may require Fisheries and Oceans Canada (DFO) review and approval, it was necessary to confirm if the works would be required to meet fish passage requirements. A fish habitat and fish passage assessment was completed and a response received from DFO. DFO concurred with the design team that the drain upstream of Archibald is not considered passable for fish, so the subsequent hydraulic analysis did not have to accommodate fish passage. The design team also reviewed the Dugald Drain with respect to the Navigable Waters Act. It was determined to be unlikely that the Dugald Drain would be considered navigable by Transport Canada and no provisions under the Navigable Waters Act have been provided for the area;
- The hydraulic performance of the four structures in the Dugald Drain was undertaken. While there were some deficiencies, it is the requirements of the functional design improvements that drive the upgrade or full replacement of the structures. This includes a singular new box culvert to replace the Archibald and Tim Horton's structures, including an upstream weir/drop inlet structure. No recommendations are made for the CPR Emerson structure as it is not City owned, and the existing Marion Street box culvert will simply be lengthened; and
- A geotechnical assessment was made to review shallow (mat) foundations and driven steel H-pile foundations for support of the new culverts. The shallow (mat) foundation is preferred.

Traffic Analysis

Significant items of note relating to this section include:

- Analysis was undertaken for the 2020 Existing Conditions, and 2031 and 2041 Horizon Years comparing proposed geometry including background traffic growth and projected site traffic from the Public Markets (Major Redevelopment Site D/MRS-D) Development; and
- The traffic operations were an integral part of the evaluation of each conceptual design option. Geometric changes were incorporated in an effort to improve the Level of Service (LOS) to D or better, with Volume-to-Capacity (V/C) ratios less than 0.85.

Urban Design

Significant items of note relating to this section include:

- Generally, stakeholders that participated in the Complete Streets workshop focused on the couplet area responded positively to the approach. The Manitoba Trucking Association and some businesses were concerned that Complete Streets measures would reduce on-street parking or worsen current periodic congestion within the corridor;
- Complete Streets features were incorporated in an iterative design manner from the conceptual through to functional design, mainly in Region 1, 2 and 3;
- Urban Design Guidelines to govern the character, function and form of future development on private properties lining the corridor were to be developed, but the City determined that rather than creating guidelines specific to the Marion/Goulet couplet, this research would be better applied to a Planned Development Overlay (PDO) that would amend the Winnipeg Zoning By-law, guiding and regulating the design of Urban Mixed-Use Corridors city-wide. Work on the city-wide PDO is proceeding independently of the Marion Street Corridor Improvements Study;
- A forestry inventory, determining the value of the tree canopy that would be lost due to the functional design recommendations was undertaken. This value was then applied to the cost estimates so that compensation is in place for replanting; and
- Stakeholder feedback made clear that the preservation of Happyland Park was a key priority. All disciplines on the design team participated in strategies to mitigate park impacts as part of the Marion Corridor Study. This included compromising on new traffic lanes, routing a multi-use pathway through the park to add vibrancy and avoid affecting mature trees. These and other design changes were instrumental in reducing the impact to Happyland Park.

Conceptual Transportation Design

Each of the five regions for the Marion Corridor Study had multiple concepts developed. Each region concept was reviewed for:

- Geometric design configuration;
- Safety;
- Property implications;
- Traffic network performance;
- AT accommodation; and

- Cost including capital, property, utility and maintenance.

Design Criteria

Significant items of note relating to this section include:

- Design criteria was developed for various elements. Geometric design criteria for vehicles/roadways were different between the west and east regions due to the change in focus for Complete Streets (priority for Region 1, 2 and to a lesser extent 3);
- Separate geometric design criteria were developed for the major intersecting streets of Archibald, Dawson/Panet and Lagimodière due to the varied use and classification of these roadways; and
- AT geometric design criteria were also developed, along with Transit Facility criteria to define the design bus and bus stop sizing.

Combined Sewer Relief Design Impacts

Significant items of note relating to this section include:

- Limitations from the combined sewer district should not have a major impact on Region 1: Couplet, or Region 2: Youville. The recommended functional designs can generally proceed without the need of further combined sewer relief;
- Region 3, 4 and 5 functional designs will result in additional peak runoff rates and total runoff volumes entering the combined sewer system which must be mitigated according to Clause 8 of Manitoba Environment Act Licence No. 3042 relating to the operating permit for the City's combined sewer system;
- The Water and Waste Department has long term plans for stormwater relief that would address this issue, but the actual timeline to implement this system is unknown. The Marion Corridor Study team envisions the work in Regions 3, 4 and 5 ideally occurring after the completion of the combined sewer relief works. Without the relief projects occurring first, any proposed design changes from this study would require costly, and throwaway interim land drainage and/or stormwater detention systems to account for the increased impervious area runoff; and
- As the Region 3 (Marion-Archibald Intersection) project area is in close proximity to the Seine River, it may be worthwhile constructing a new localized land drainage system discharging directly to the Dugald Drain in Happyland Park, independent of the future planned combined sewer relief works. This could advance the Region 3 project ahead of combined sewer relief projects.

Conceptual Design Development

Significant items of note relating to this section include:

- Multiple conceptual design options were developed, with many being removed from contention by the project team and Project Steering Committee as the designs were vetted and iterated. Early concepts are available in the Appendix, with later, more refined concepts described in full in this section of the report.

Region 1: Marion-Goulet Couplet

Significant items of note relating to this section include:

- The primary goal for this region is to upgrade the area to better balance neighbourhood livability while allowing safe and efficient throughput of the traveling public. Strategies to achieve these balanced goals included upgrades to cycling comfort, traffic calming features, and dedicating more space for pedestrians within the existing right-of-way;
- The AT mode was the defining differentiator between the three concepts presented through the couplet. The uni-directional concept receives a one-way protected bike lane along the north curb on Goulet Street and the south curb on Marion Street. The bi-directional concept receives a two-way protected bike lane along the south curb of Marion Street, and no cycling facility on Goulet Street, and the Greenway Route receives traffic calming features along Eugenie Street to the Tremblay Bridge with no dedicated cycling facilities on Marion Street nor Goulet Street; and
- For improved pedestrian comfort, all three concepts receive curb extensions (or bump-outs), along both Marion Street and Goulet Street. These will define parking lanes, calm traffic and reduce pedestrian crossing distances.

Region 2: Youville

Significant items of note relating to this section include:

- Marion Street transitions from a two-way street east of Youville Street to a one-way couplet west of Youville Street with Marion Street providing eastbound movements and Goulet Street providing westbound movements. The existing geometry consists of a tight S-curve which cannot be safely driven at the posted speed limit (approximately 30 m radius with a speed advisory tab of 30 kilometres per hour (km/h);
- The design team prepared multiple initial roadway concepts presenting geometric options with curve radii equating to design speeds of 50 km/h, 40 km/h and 30 km/h. Geometry was then varied to shifting the S-curve to the east and west to determine the change of impact to private properties. As the study progressed, the three cycling facility options from Region 1 were applied, as continuity of AT type between Region 1 and 2 is highly preferred. Combining all these options, the team considered 24 configurations; and
- All concepts include a proposed half signal pedestrian crossing at Youville Street and Marion Street. The half signal is preferred over the existing lighted overhead flashing pedestrian corridor as it allows for timing co-ordination with the existing signalized intersections, and better warning for drivers which creates a safer crossing for people walking and results in fewer rear end collisions, or collisions with vulnerable road users.

Region 3: Marion-Archibald Intersection

Significant items of note relating to this section include:

- The focus in this region was to improve safety along with traffic flow, while minimizing the amount of property needed. Four options were explored revolving around adjusting the number/length of left turn and through lanes to find a balance between traffic operations and property impacts. The option advanced demonstrated the best balance in terms of space requirements to achieve respectable traffic operations;

- This lane configuration option was then further developed into two concepts of AT facilities, a bi-directional multi-use path option and a greenway along Tremblay, Evans and Prosper Streets;
- All options require modifications and/or replacements to many of the structures over the Dugald Drain. The Archibald Street box culvert and Tim Horton's private approach culvert would be replaced by a new singular structure. The CP Emerson structure should have minimal to no impacts, except that the Dugald Drain slopes around the structure will likely require retaining walls due to the proximity of the new sidewalks or multi-use path (MUP). The culvert under Marion Street would need to be extended on the south side for these same AT features, and retaining walls would also likely be required;
- To reduce operational safety concerns and improve the efficiency of the Marion/Archibald intersection, existing accesses along Archibald Street to the E J Coutu Funeral Home, Co-op Gas Station and Tim Horton's restaurant will be limited to right in and right out only, except at St. Catherine Street where a full movement approach would be provided. The Tim Horton's approach on eastbound Marion will also be limited to a right in-right out;
- East of CP Emerson, the design team has incorporated the Marion Street improvements proposed by the MRS-D development team for the former Union Stockyards development area; and
- As noted in the Combined Sewer Relief Design Impacts summary, a new localized drainage system must be constructed in Region 3 if the improvements are advanced before the Mission Combined Sewer Relief work. The costs of such a drainage system are included in the ultimate functional design.

Region 4: Marion at Dawson and Panet Intersections

Significant items of note relating to this section include:

- The existing Marion Street/Dawson Road/Panet Road intersection is actually three separate intersections, two of which are signalized. Their close proximity requires they function as one intersection, but a lack of turn lanes and access management has resulted in a deterioration of the intersections' operations and safety over time;
- The design team explored four concepts for this Region, including a T-intersection, T-intersection with widening on Marion for left turn storage, a peanut elongated roundabout, and roundabout intersection. Early discussions with the Steering Committee lead to eliminating some of these concepts, refining some, and pursuing two new concepts. The design team moved forward with the T-intersection with widening on Marion Street for left turn storage and pursued a realigned Dawson Road with an intersection skew angle of 70 degrees;
- Following those two options, a final third concept was developed. This concept maintains the existing geometry along Dawson Road and Panet Road, but adds medians and left turn bays along Marion Street. The 50-degree skewed intersection geometry remains, which greatly reduces the amount of property required; and
- Based on AT continuity with the proposed MUP along the MRS-D development from Region 3, only a MUP through Region 4 was deemed viable. East of the Panet-Dawson intersection, the concepts show the south boulevard being repurposed as a MUP extending to Lagimodière Boulevard, and both concepts present a 3.5 m wide path up to 1016 Marion Street (Panther's Gymnastics). East of 1016 Marion Street, the path narrows to a substandard width, as there would be a requirement for continued property acquisition all the way to Lagimodière Boulevard and the design team recommends that the path proceed up Panet Road rather than continuing on Marion Street. Alternatively, a sidewalk could be provided between Dawson Road and Lagimodière Boulevard.

Region 5: Marion-Lagimodière-Dugald

Significant items of note relating to this section include:

- Lagimodière Boulevard between Marion Street and Dugald Road is required to handle traffic on Lagimodière Boulevard, plus transfer traffic east and westbound between Marion Street and Dugald Road, resulting offset T-intersections spaced approximately 450 m apart. For this main reason the focus in this region is on improving traffic operations;
- The initial concept preparation included three options with a varying number of auxiliary lanes at both major intersections. Widening Lagimodière Boulevard to six lanes was conceptualized from Dawson Road at the south, through to the Dugald Road intersection to the north. The Steering Committee with the design team refined the concepts, which reduced the six lane limits for a more purposeful transfer of east/west traffic between Marion Street and Dugald Road. With this, two concepts were developed with slightly different intersection geometry;
- Both concepts propose significant changes to the west side of Lagimodière Boulevard. In order to achieve industry standard roadside safety (3.0 m shoulders, 4:1 side slopes, and utility pole off-sets) and ditching for this classification of road and road speeds, the majority of the homes and buildings would need to be removed. With this change it provides the opportunity to install noise berms for the adjacent community and off-street 3.5 m wide MUP which meet current industry practices alongside high speed major arterial roads, and improves AT network connectivity; and
- The existing 1,650 millimetre (mm) unreinforced concrete Branch I Aqueduct pipe passes across the region at the Greater Winnipeg Water District (GWWD) railway line. This pipe requires a new bridging structure due the proposed widening to six lanes.

Conceptual Evaluation

Significant items of note relating to this section include:

- Concept design evaluation criteria were developed by the design team with input from the City's Project Manager and Steering Committee. The concept design evaluation criteria included criteria weighting and a scoring scale defined to aid in identifying the preferred concept with a balanced approach;
- For Region 1, the greenway option had the highest score, followed closely by the uni-directional bike lanes. Outside of the score, the consultant team and Steering Committee preferred the uni-directional option as the AT connectivity is significantly better. Both these options were put forward to the Phase 2 Moving on Marion public engagement for public and stakeholder feedback;
- For Region 2, the uni-directional AT option had the highest score due to the superiority of AT connections and linkages. As the AT option at Youville would be determined by the AT option selected for the Region 1 couplet, the uni-directional and greenway options were again put forward to the Phase 2 Moving on Marion public engagement; and
- For Region 3, the bi-directional AT option had the highest score, with the AT connections through Happyland Park being of particular value. It also improves safety for existing pedestrians along Happyland as they are relocated further away from traffic. Although the score for the bi-directional option was clearly superior than of the

greenway option, both were put forward to the Phase 2 Moving on Marion public engagement as the AT options are tied to Region 1 and 2 for continuity;

- For Region 4, the three options considered had similar scores. The option with the most minimal property impacts was preferred by the Steering Committee and consultant team as the traffic improvements were still noticeable. This was the only option presented to the public and stakeholders in the Phase 2 Moving on Marion sessions; and
- For Region 5, there difference between the two options was in the arrangement of the traffic lanes, not in the AT facility. Rather than carrying both options forward to the public, the individual lane traffic operation movements were reviewed in depth and the steering committee elected to recombine features from both options to present as one recommended option in the Phase 2 sessions.

Conceptual Structural Design

Significant items of note relating to this section include:

- The extent of the structures for the Marion Corridor Study was limited to Region 2 (Marion Street box culvert over the Seine River) and Region 3;
- Proposed hydraulic design criteria for the anticipated new structures in Region 3 (under Archibald and the Tim Horton's private approach) were developed;
- For Region 3, based on the accepted hydraulic design criteria and confirmation from DFO that designing for fish passage would not be required, and based on the proposed roadway works and site geometry/constraints, a replacement box culvert was considered the only feasible option; bridge structure alternatives were screened out early in the conceptual design, primarily due to their significant cost relative to similarly sized box culvert options;
- Two CIP concrete box culvert options for the conceptual design to cross both Archibald Street and the Tim Horton's Private Approach were considered. Due to the existing steep channel grade, the Archibald Street crossing is prone to high velocities and downstream degradation; therefore, both options were developed to address these concerns and to satisfy the hydraulic design criteria;
- Option 1 is a Reinforced Concrete Box Culvert with Upstream Weir/Drop Inlet Structure. The implementation of a drop inlet structure with a weir is intended to dissipate the water velocity and minimize the necessity for downstream modification;
- Option 2 is a Reinforced Concrete Box Culvert with Upstream and Downstream Channel Upgrades and Headwalls. This option is a traditional box culvert structure and results in a much larger structure with significant channel works to mitigate water velocity; and
- A high-level comparison of the two options, considering the pros and cons of each, was completed. Considerations included hydraulic performance, constructability, cost, and impact to existing land. Option 01 was ultimately recommended as the preferred option. The increased hydraulic performance, reduced cost and limited impact to Happyland Park makes it the superior option, while providing relatively neutral trade-offs in terms of constructability.

Railway Consideration

Significant items of note relating to this section include:

- The design team explored the feasibility of localized realignment of the CPR Emerson subdivision rail line to improve safety and functionality of the Marion Street and Archibald Street intersection. Along with the realignment concept to the east, the design team was asked to conceptualize the property acquisition required if the realignment was coupled with a grade separation (underpass). This was specifically requested as the City was negotiating with the owners of the MRS-D property, and it would be prudent to reserve land for a future underpass. Ultimately, a relocation of the rail line and/or an underpass was not part of the overall conceptual design options or subsequent functional design.

Transportation Functional Design

The basis for the functional design of the five project regions was selected through a culmination of the concept evaluation and public through the Phase 2 public engagement program.

Functional designs were then developed, with review and refinement from the Steering Committee before being presented to stakeholders and the public in the Phase 3 engagement process. They were further refined using Phase 3 feedback.

This section outlines the final preferred functional designs for each of the five Regions. Construction staging and traffic management for the preferred functional design is also included.

Preferred Functional Designs

Significant items of note relating to this section include:

- For Region 1, the design is mainly that of the protected uni-directional cycling concept, with improved connections to Eugenie Street bike boulevard from the greenway design concept. Curb extension locations have been refined to balance Transit bus stops, parking demand, and landscaping and placemaking opportunities. Additional controlled pedestrian crossings are also present as compared to the concepts based on feedback from the public;
- For Region 2, continuity of AT connections led to the selection of uni-directional bike lanes on Marion Street and Goulet Street built on the option with a 40 km/h design speed with the S-curve shifted west to consolidate property acquisition to one side of Youville;
- For Region 3, the design includes various intersection channelization upgrades and an off-street MUP for cyclists through Happyland Park. The facility transitions into a 3.0 m bi-directional protected bike lane and a separate sidewalk east of Archibald Street and is planned to connect to the MRS-D ongoing development site east of the CP Rail line. The significant improvements to the site including widening the Archibald right-of-way to the east from St. Catherine Street to Cherrier Street to gain additional right-of-way space for a new median and turn lanes;

- For Region 4, the concept that maintained the 50-degree skew at the Marion Street and Dawson Road N intersection was recommended. It generally maintains the existing geometry along Dawson Road N and Panet Road, but widens the right-of-way to the south to create additional right-of-way for medians and left turn lanes along Marion Street. The design in general looks to decrease the driver workload at the intersecting three streets and improve traffic management within the area. The introduction of raised medians and channelized turn lanes provides positive direction indication to drivers while reducing confusion and conflict points. The trade-off of introducing raised medians and channelized turn lanes includes the restriction of full access to some properties; and
- For Region 5, the preferred functional design focuses on improving safety, traffic flow and adding a separated AT facility. Along Lagimodière Boulevard, the design includes three lanes northbound and three lanes southbound, between Marion Street and Dugald Road. The design also includes a number of intersection channelization upgrades to accommodate current and future traffic volumes. The improvements to Lagimodière Boulevard include standard shoulders, ditching and clear zone which results in interference with the residential homes on the west side. Full property take is likely required; however, this provides the opportunity for the City and community to repurpose the space to add benefit to the remaining community.

Construction Staging and Traffic Management

Significant items of note relating to this section include:

- Construction staging and traffic management has been prepared for all regions of the project to a functional level. This includes the structural and transportation work and the related major earthworks and underground. Although each site is quite different to the next, the general approach was to maintain as many lanes open in each direction as feasibly possible while providing significant area to be efficiently constructed. As formal cycling facilities do not currently exist throughout the five project sites, through the staging and traffic management program, the contractor will not be expected to create nor maintain temporary cycling facilities during construction, until the new facility is completed and related infrastructure (signs and signals) are installed; and
- Each region has many complexities and significant lengths of roadway that need to be built, and thus, the length of construction will vary from each region. The estimated length of construction-by-construction seasons for each of the five regions is: Region 1 – two seasons, Region 2 – one season, Region 3 – two to three seasons (including winters), Region 4 – one season and Region 5 – two to three seasons.

Streetscaping Functional Design

Significant items of note relating to this section include:

- Streetscaping and park modifications were developed in parallel with the Transportation Functional Design detailed in the previous section. Therefore, the process was identical in that the design was refined based on feedback from the concept evaluation by the Steering Committee, and feedback received from the stakeholders and public through the public engagement program.

Structural Functional Design

Significant items of note relating to this section include:

- Structural functional design was undertaken mainly to develop the Class 4 cost estimates. As noted previously, Option 1 with the cast-in-place concrete drop-inlet culvert structure (Archibald and Tim Horton's approach) was recommended. The only noticeable change from the conceptual design was a width reduction to address limited space as well as cost considerations. The conceptual inlet box width of 7.5 m was developed based on the City of Winnipeg's safety guidelines for Type IV inlet structures. The box width has been reduced to 4.5 m with a custom safety grate;
- There exists a buried aqueduct crossing immediately north of Lagimodière Boulevard at Marion Street that will be impacted by the proposed roadway works for Region 5. As part of the functional design, the report has considered costs for the complete replacement of the structure, assuming the entirety of the existing structure is unsuitable for rehabilitation and widening; and
- As the functional design introduces new lane channelization it is recommended that new overhead sign structures (OHSS) with route and lane directing signage be mounted.

Cost Estimate and Prioritization

Significant items of note relating to this section include:

- Project cost estimates were developed by the design team with input from City departments such as the Public Works Department, Traffic Signals, Property, Planning and Development, and crown and private utilities. The cost estimate is to a Class 4 estimate which are considered accurate to within -30% to +60% of the final costs;
- The cost estimates do not include the funds required to separate the combined sewer districts as part of the City's Combined Sewer Relief (CSR) program in Regions 3, 4 and 5. However, a localized relief system could be constructed for Region 3 at an estimated cost of $2.5 million dollars;
- The cost estimate for the couplet has a reduction factor applied to account for the 2023 reconstruction of Goulet between Youville and Traverse. This speaks to the ability to further subdivide the couplet region into smaller project areas if desired; and
- The conceptual design evaluation outlined was to determine the best option within each project region. Once the preferred option for each was moved to functional design, the focus then became which of the project regions is the most beneficial to move forward to future design and construction first. This was again accomplished through a scoring and ranking exercise. The ranking order starts with Region 2, followed by Region 1, 3, 4, and lastly Region 5. The eastern regions are generally lower due to the significant combined sewer overflow (CSO) work that must occur prior to these improvements being constructed.

This section outlines the Class 4 cost estimate and outlines the prioritization, raking critieria, weighting and scoring scale.

Cost Estimate

The cost estimate is to a Class 4 estimate which are considered accurate to within -30% to +60% of the final costs. Summaries of the estimates are presented in **Table ES-2**Table 11-1, and detailed component estimates are included in **Section 11**, **Appendix R** and **Appendix S**. **Appendix R** outlines the Basis of Estimate (BoE) for each of the Regions. **Appendix S** outlines the detailed component estimates.

Table ES-2: Cost Estimate Summary

Item	Project Sites					
	Region1: Marion – Goulet Couplet	Region 2: Youville	Region 3: Marion – Archibald	Region 4: Marion at Dawson & Panet	Region 5: Marion – Lagimodière – Dugald	Total
Construction/Equipment Costs	$22,150,000.00	$3,097,289.00	$13,458,046.00	$9,871,464.00	$21,400,237.00	$69,977,036.00
Consultant Costs	$3,259,000.00	$457,485.00	$1,978,443.00	$1,458,059.00	$3,123,024.00	$10,276,011.00
Utility Costs	$4,710,000.00	$864,992.00	$4,245,977.00	$2,916,654.00	$3,196,060.00	$15,933,683.00
Other Costs	$469,000.00	$146,920.00	$395,833.00	$422,724.00	$660,831.00	$ 2,095,308.00
Property Costs	$130,000.00	$3,361,246.00	$2,281,417.00	$830,165.00	$7,441,414.00	$ 14,044,242.00
Project Costs before Contingencies Sub-Total	$30,718,000.00	$7,927,932.00	$22,359,716.00	$15,499,066.00	$35,821,566.00	$112,326,280.00
Contingencies Costs	$7,667,000.00	$2,021,396.00	$5,610,397.00	$3,876,777.00	$9,048,143.00	$28,223,713.00
Project Sub-total before Administrative Charges Sub-total	$38,385,000.00	$9,949,328.00	$27,970,113.00	$19,375,843.00	$44,869,709.00	$140,549,993.00
Administrative Charges	$1,640,000.00	$398,076.00	$1,118,910.00	$775,138.00	$1,794,894.00	$5,727,018.00
Total Capital Project Cost Estimate	**$ 40,025,000.00 $31,025,000.00***	**$ 10,347,404.00**	**$ 29,089,023.00****	**$ 20,150,981.00**	**$ 46,664,603.00**	**$ 146,277,011.00**

Notes:

* 19% reduction to account for recent 2023 construction and completion of Goulet between Traverse and Youville

** Excluding $2,500,000 to construct a localized land drainage system if project advances ahead of CSR program.

Prioritization

The conceptual design evaluation outlined in **Section 5.9** was to determine the best option within each project region. Once the preferred option for each was moved to functional design, the focus then becomes which of the project regions is the most beneficial to move forward to future design and construction. This was again accomplished through a scoring and ranking exercise.

The functional design ranking criteria and weighting was again developed by the design team with input from the City's Project Manager and the Manager of Engineering. The criteria included weighting and a scoring scale defined to aid in identifying the recommended order to move each region to detailed design and construction. Scoring was completed by the design team, and presented as a draft to the Steering Committee on October 12, 2022, prior to the finalization of Class 4 Cost Estimates. Once those were complete, the final ranking was determined and provided to the City's Project Manager on January 20, 2023.

Ranking Criteria

The criteria used was similar to that from the conceptual options evaluation, but with the addition of utilizing the recently completed Class 4 Cost Estimates, and acknowledging the condition of the infrastructure in the region. For example, if the pavement in the project area requires immediate rehabilitation or reconstruction, this would elevate the region to apply the functional design right away. Criteria was as follows:

- Safety:
  - Pedestrians and Cyclists; Does the site upgrade significantly improve safety for vulnerable road users?
  - Vehicle Traffic; Does the site upgrade significantly improve safety for motorists/passengers?
- Property Impact:
  - Commercial/Residential; Does the site upgrade require commercial and/or residential property? Does it require building and/or just property?
  - Public/Park/Boulevard Space; Does the site upgrade have a significant change on existing public and/or park space?
- Traffic:
  - Operations and Network Performance; How well does the site upgrade address traffic operations? Does the concept increase or decrease traffic capacity?
- Cyclist/AT Facilities:
  - New/Improved AT/Linkages per PCS; Can the site improvements close a gap within the network? Does the site improvement elevate the cycling facilities comfort level to capture latent demand?
- Placemaking:
  - Public Realm Improvements; Does the site improvement create new space for comfortable public gatherings? Does the site improvements offer placemaking opportunities?
- Cost:
  - Capital, Property Acquisition, and Utility Relocations; What is the relative cost between the various projects in the Marion Corridor? Is this site upgrade more/less expensive? Is it an order of magnitude more/less expensive? Does it require multi-year funding? Are there significant property acquisition costs? Are there significant utility relocation costs? Is there utility infrastructure upgrades needed prior to completing transportation facility upgrades?
- Pavement Condition:
  - Based on pavement condition, what is the expected renewal timeframe?

Ranking Weighting

Detailed weighting rationale for each criteria is noted in **Figure ES-1**. Generally, for this exercise, safety, placemaking, cost, and pavement condition criteria were elevated for various reasons.

Marion Street Corridor Improvements Study
Ranking of Corridor Improvement Areas - Criteria and Weighting

Score	Rationale	Note
1	Limited Benefit/Very High Costs	This ranking only has one weighting distribution for comparing all sites. Of note, for the concept evaluations the sites were separated to west and east project areas, recognizing the adjacent landuse makeups. There must be only one weighting criteria now to be able to compare the five project sites.
2	Fair	
3	Good	
4	Very Good	
5	Excellent/Relatively Low Costs	

	Criteria	Weight	Assessment Questions	Weighting Rationale
1	Safety a) Pedestrians and Cyclists	10%	Does the site upgrade significantly improve safety for vulnerable road users?	Safety is one of core goals of the study, thus the combined value of 20% is used. The Safety category is separated into two recognizing safety may be different depending on mode.
	Safety b) Vehicle Traffic	10%	Does the site upgrade significantly improve safety for motorists/passengers?	
2	Property Impact a) Commercial/Residential	5%	Does the site upgrade require commercial and/or residential property? Does it require building and/or just property?	As reasonable property acquisition space was concluded within the conceptual phase (and was generally minimized), the weighting for this category is lesser as compared to other criteria for ranking of project sites. Costs related to property acquisition is captured in Criteria #6, hence a higher weighting assigned there. Property impact can be counterintutive in that it's an impact to the current owner, but provides a positive benefit to communiity
	Property Impact b) Public/Park/Blvd Space	5%	Does the site upgrade have a significant change on existing public and/or park space?	
3	Traffic a) Operations and Network Performance	10%	How well does the site upgrade address traffic operations? Does the concept increase or decrease traffic capacity?	Equal weighting value given for vehicular traffic operations (#3 - flow and capacity) and Cyclist/AT/Pedestrian Facilities (#4). Also, equal weighting as safety criteria. Based on the core goals of study, we do not want traffic operations to outweigh safety criteria, yet it is still an important value for the residents of Winnipeg.
4	Cyclist / AT Facilities a) New/Improved AT/Linkages per PCS	10%	Can the site improvements close a gap within the network? Does the site improvement elevate the cycling facilities comfort level to capture latent demand?	
5	Placemaking a) Public Realm Improvements	15%	Does the site improvement create new space for comfortable public gatherings? Does the site improvements offer placemaking opportunities?	Relatively high weighting to capture postive benefits of improving social fabric of project areas. As most of other criteria are technical in nature, it is important to properly value the social/environmental criteria, hence this receives an elevated weight.
6	Cost a) Capital, Property Acquisition, & Utilitiy Relocations	20%	What is the relative cost between the various projects in the Marion Corridor? Is this site upgrade more/less expensive? Is it an order of magnitude more/less expensive? Does it require multi-year funding? Are there significant property acquisition costs? Are there significant utility relocation costs? Is there utility infrastructure upgrades needed prior to completing transportation facility upgrades?	1... > $40 million 2... $25 to $40 million 3... $15 to $25 million 4... $5 to $15 million 5... < $5 million
7	Pavement Condition	15%	Based on pavement condition, what is the expected renewal timeframe.	1... > 20 years 2... 15 to 20 years 3... 10 to 15 years 4... 5 to 10 years 5... < 5 years
	Score	100%		

Figure ES-1: Ranking of Corridor Improvement Areas – Criteria and Weighting

Ranking Scoring Scale

To identify how the concept performed, and how it meets the requirements of each evaluation criteria a scoring scale of 1 to 5 was applied for most criteria. Note that this provided an ability for more precision as compared to the 1 to 3 criteria during the conceptual option ranking.

Note that both the cost and pavement condition criteria were assigned specific numerical ranges for quantitative clarity. The scoring scale is also illustrated in **Figure ES-1**Figure 11-1.

Functional Design Ranking

The final scoring and ranking is found in **Figure ES-2.**

Region 2: Youville clearly has the highest score. This is due to a very low cost compared to other regions because of its small size, even with property costs taken into account. It also is expected to greatly improve safety for all modes and is a placemaking opportunity. While it was not considered during the ranking, the fact that the Region 1: Couplet functional design on Goulet from Youville to Traverse is being constructed in 2023 further elevates this region. The Youville improvements could be built and the bi-directional bike lanes would tie into the Goulet westbound bike lane.

Region 1: Couplet has the second highest score. Strengths here were in place making, a significant improvement to cycling and pedestrian facilities and thus safety, and minimal property impact. The cost is the second highest of all regions, but could be spread out over multiple projects if needed. In fact, this is occurring at the time of this report as per the 2023 rehabilitation of Goulet from Youville to Traverse. Therefore, the ranking uses the reduced estimate accounting for the 2023 Goulet works being complete. What may delay the remaining portions of Region 1 is that they are in relatively good condition, so it is not cost effective to renew them before the end of their life.

Region 3: Marion-Archibald is in third place. Pavement condition is poor, as is the condition of the Archibald culvert. Archibald itself has been renewed to the south, and the north is being renewed in 2023 (including an AT facility). This leaves the intersection area as an island of deteriorated infrastructure along Archibald. Improvements here also have a large impact on improving vehicular operations and safety. Cycling connectivity benefits are somewhat limited unless Region 1 and 2 are constructed first.

Region 4: Marion at Dawson & Panet is fourth. Strengths are in its relatively lower cost and cycling facility improvements. Note that the cycling improvements are of much greater benefit if co-ordinated with the MRS-D land development, and construction of a multi-use path along the MRS-D frontage on Marion. The traffic operations improvements are also valuable if matched to the development of MRS-D, which is a contributor to the traffic volumes projected in this study. In addition, costs noted do not include the significant CSO works that must occur prior to this improvement being constructed. This further amplifies this lower ranking.

Region 5: Lagimodière is fifth and lowest in the ranking. High points were generated by the improvements to traffic operations, and the benefits of the earth berm and multi-use path creating place making in the Holden neighbourhood. However, the current pavement condition is good, costs are very high compared to other regions, and safety improvements are only average. In addition, costs noted do not include the significant CSO works that must occur prior to this improvement being constructed. This further amplifies this lower ranking.

DILLON CONSULTING

Marion Corridor Improvements Study
Evaluation Scores

Date: March 1, 2024
Consultant Team Ranking: Mark Doucet, David Wiebe, Greg Propp, Glen Manning

	Criteria	Weight	Marion - Goulet	Youville	Marion - Archibald	Marion - Dawson - Panet	Marion - Lagimodiere - Dugald	Comments
1	**Safety** **a) Pedestrians and Cyclists**	10%	5	5	3	3	2	M-G: No existing cyclist facility. Adding facility is a significant improvement. No change to width of sidewalk. Ped crossing distances are reduced at the majority of intersections. Cycling facility offers increased space (buffer), further distancing pedestrians from vehicles. Y: Same as M-G Arch: New cycling connections, where none existing before. Pedestrian crossing east-west is longer than existing. Good, but not fantastic improvement. MDP: MUP is relatively close to traffic lane. As no facility exists today, adding MUP improves the overall network. Lag: New off-street path west of Lagimodiere. Marion connection is substandard at 2.7m wide.
	Safety **b) Vehicle Traffic**	10%	3	4	4	3	3	M-G: Traffic calming features will reduce vehicle speeds, reducing risks and improve safety. Volume of traffic through the area may result in increase friction and fender benders. Y: Improved alignment with larger radii. Bus bay introduced allows for buses to pull out of traffic, thus reducing risk of rear end collisions. Improved alignment will allow drivers to maintain constant speeds thus removing speed differential within traffic, reducing risk of collisions. Arch: The new medians provides access management reducting the number of conflicts to private approaches. MDP: Reduced conflict, added medians, this is good. Lag: Remove approaches to Maple Leaf and Neighbourhood backlane. Improves flow.
2	**Property Impact** **a) Commercial/Residential**	5%	5	2	1	3	1	M-G: Minimal property take required in front of Domo. Y: Significant property take (but not same scale as Lag) Arch: Significant property required from Tim Hortons and Co-op Gas bar. Worse than Youville. MDP: Minor property impacts as only narrow strip of land at front of property is required Lag: Multiple properties needed with homes and buildings requiring removal.
	Property Impact **b) Public/Park/Blvd Space**	5%	3	4	3	3	3	M-G: Significant landscaping improvements to boulevard space. No property take. Y: Can create good park space that's accessible and in an area it would be utilized. BUT that is placemaking below. Overall property impact to green space is neutral. Arch: Alterations to the park result in property line changes adjacent Marion. A sliver of park land would be needed for road pavement, but another sliver of pavement would be converted to park. Overall net positive park area. Some Disc Golf tee boxes will need to be relocated (moved ~5m) to provide space for MUP. MDP: Green space is added to the northwest corner, but not anticipated for meeting space nor park like setting. Lag: Significant improvement to west side of Lagimodiere with earth berms and MUP. 3
3	**Traffic** **a) Operations and Network Performance**	10%	3	3	4	3	4	Pulled from concept evaluation and converted from 1-3 range to 1-5 range M-G - not terrible, but slows traffic. Youv - improves traffic operations, half signal can create some increased in delay. Arch: Added lanes aim to improve traffic flow. MDP: some micro improvements with channelization. Lag: Traffic flow and capacity improved.
4	**Cyclist / AT Facilities** **a) New/Improved AT/Linkages per PCS**	10%	5	5	4	4	3	M-G: New facility where none existing before. Protected and along main streets (desired) Y: Same as M-G Arch: New MUP facility separated from roadway. MUP considered not as good as separated bike lanes (as on M-G) MDP: Similar to Arch. It's a full width MUP Lag: Improves linkages to Transcona in the future. Substandard width along Marion from Panthers Gym to Lagimodiere.
5	**Place Making** **a) Public Realm Improvements**	15%	5	5	4	2	5	M-G: bike lane limits full potential of urbanization elements, but achieves complete street goals. Y: Full property takes allows for new green space and trees. AT connects nicely to neighbourhood. Not better than M-G though because it is small footprint and not as built up. Arch: New gateway, better fence, interpretive features. Cycling connectivity. MDP: New green space assumed to not attract public gatherings due to commercial land-use. Therefore, minimal added public realm value. Lag: Adds a earth noise berm, connection to park, room for trees
6	**Cost** **a) Capital, Property/Utility Relocations/Maintenance**	20%	2	4	2	3	1	M-G: $34,843,000 ---> 2 (accounts for recent 2023 construction and completion of Goulet between Traverse and Youville) Y: $11,168,000 ---> 4 Arch: $31,435,000 ---> 2 MDP: $21,749,000 ---> 3 Lag: $50,573,000 ---> 1
7	**Pavement Condition**	15%	3	4	4	3	1	M-G: Portions of Goulet are currently scheduled for renewal within the City's Capital Budget. Along Marion (Kenny to Des Meurons) was renewed 10 years ago and still in good condition. [B.Kibbons] "no plans for renewal of Marion. Goulet is in good condition other than Braemar to Youville" Y: [B.Kibbons] "fair condition. Is a rehab candidate but too short for it's own project. Street Maintenance to deal with it" Arch: from Fermor to Messier road has be renewed in 2020 & 2021. Intersection left out of renewal works to minimize the amount of through away as this study indicates intersection improvements needed. [B.Kibbons] "Fair condition built in 1918". MDP: [B. Kibbons & Juli Cox] "Needs joint repairs." Lag: [B.Kibbons] "Good contdion. No plans for renewal"
	Score	**100%**	**360**	**415**	**330**	**295**	**250**	
	Rank		**2**	**1**	**3**	**4**	**5**	

Figure ES-2: Marion Corridor Improvements Study Evaluation Scores

Public and Stakeholder Engagement

Significant items of note relating to this section include:

- In 2019, the City undertook a pre-engagement planning with the community to build and confirm project objectives and to test and confirm project notification methods and engagement techniques to ensure they were designed to meet community needs. Based on feedback received during this pre-engagement (retroactively referred to as Phase 1), the City kicked off the Moving on Marion Street project to determine how to improve the Marion Street corridor used for the movement of people, goods and services. Based on the differing needs from one end to the other, the project was generally separated into a West Segment and East Segment for engagement purposes;
- The East Corridor events (roughly east of Region 3 to 5) would focus on the transportation corridor – transit, truck and vehicle movement with particular emphasis on access, AT extensions and connections, and how they relate to access and future area businesses and development. The West Corridor (Regions 1 to 3) would have greater focus on urban design improvements for pedestrians and cycling, transit and future transit hubs, neighborhood vitality and character for both businesses and residents;
- Phase 2 engagement presented recommended designs for all five regions presented in this report. Engagement participants were asked targeted questions about these recommendations through stakeholder and landowner meetings, online engagement and online workshops to help inform the next stage of design. All Phase 2 engagement opportunities were organized around the two distinct geographic areas of the Marion corridor – with an East Segment and West Segment focus;
- Phase 2 feedback received included direct property owners, and this led to alterations such as location of vehicular approaches, property requirements, or curb bump-out locations for the functional design. Feedback received from other stakeholders and the public in general was also used to determine the preferred conceptual design and refine it into the recommended functional design. This included feedback on important bus transfer locations, complex pedestrian crossings, and unique traffic operations during rush hour; and
- For Phase 3, the final phase of public engagement, participants had the opportunity to provide input on the proposed functional design for each project element presented by the Technical Consultants in order to refine the functional designs in each region. This phase included how feedback collected during Phase 2 of public engagement from affected landowners, stakeholders and the general public was or was not incorporated into the design. Phase 3 engagement collected feedback to confirm that the proposed design would achieve the goals of improving traffic flow and road safety and enhance neighbourhood livability, while ensuring the project team understands how the design would impact various road users and residents.

Next Steps

This report summarizes the findings of the overall Marion Corridor Study. It is expected that the City will use this report to scope subsequent preliminary and detailed design of standalone infrastructure improvements based on the five project regions. The proposed functional designs and cost estimates will be used to procure funding and plan for these important projects that support liveability for current residents, and growth of the City.