

## Anthony Henday Drive and 135 Street Interchange and Manning/Meridian Interchange

### Recommendation:

That the October 5/6, 2015, Financial Services and Utilities report CR\_2615, be received for information.

### Report Summary

**This report provides additional information on the Anthony Henday and 135 Street Interchange and the Manning and Meridian Interchange.**

### Previous Council/Committee Action

At the June 10, 2015, City Council meeting, the following motion was passed:

That Administration provide a report with additional information on the relative priority of the Anthony Henday Drive and 135 Street Interchange and the Manning/Meridian Interchange.

### Report

#### Prioritization of the Interchanges

To determine the Provincial-Territorial Component of the Building Canada Fund recommended priorities, a two-stage prioritization process was undertaken by Administration to rank 37 of 53 interchanges identified in the October 15, 2014, City Interchange Needs report (CR\_1331).

The first stage was a technical-based prioritization that considered the following criteria:

- volumes greater than 10,000 vehicles/day
- interchange benefiting a designated truck route
- presence of an existing intersection
- number of traffic collisions
- truck volumes
- current and projected levels of congestion

The second stage of the prioritization further evaluated the interchanges from a timing, benefit and provincial interest perspective taking into consideration the following:

- eligibility and program alignment
- the level of required improvement and cost
- the timing of the required improvement
- the type of land use that would benefit from the improvement, and

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- the provincial and/or regional interest in the project.

Applying these primarily technical based and provincial interest criteria, the 50 Street rail grade separation, 75 Street grade separation and the Anthony Henday/135 Street interchange were ranked as the top three interchange priorities. The Manning/Meridian interchange ranked eighth out of the interchanges reviewed.

Based on the discussion at the June 10, 2015, City Council meeting and Council's direction, a further review of the Anthony Henday/135 Street and the Manning/Meridian Interchange was completed to include consideration of City Council's initiatives, priorities and goals, including Diversifying Edmonton's Economy, Enhancing the Use of Public Transit & Active Modes of Transportation, and Economic Development of the Heartland.

When considering Council's initiatives, priorities and goals, a review of the impact the interchange will have on the surrounding developing areas was considered. The next sections summarize the review of the Manning/Meridian and the Anthony Henday/135 Street interchanges.

### Manning Drive and Meridian Street Interchange

Manning Drive, between Anthony Henday Drive and The City limits, is a provincially controlled highway that is anticipated to be entirely free-flowing in the long term. The Manning/Meridian interchange is located along this section of Manning Drive and will service the Edmonton Energy and Technology Park as well as the Horse Hill area. The location of the interchange is shown in Attachment 1. The Edmonton Energy and Technology Park is a 4,800 ha area that is envisioned to be a world-class eco-industrial park with precincts for petrochemicals, manufacturing, logistics, related support industries, and research development. The area is anticipated to take 30 to 50 years to completely build-out. Build-out of the area will increase Edmonton's industrial land base by 25% and increase the City's industrial tax base. The Edmonton Energy and Technology Park is Edmonton's contribution to the land base of the Alberta Industrial Heartland. Horse Hill is planned to be a primarily residential area with a proposed population of over 70,000 people. The Horse Hill area is planned to build-out over the next 30 to 40 years.

The Manning/Meridian interchange is part of the Capital Region Board's infrastructure priorities to improve transportation to northern Alberta and address growth issues. Improvement of road access can act as a stimulus to private sector interest and development in the Edmonton Energy and Technology Park. The interchange will also benefit residential growth and commercial access in the Horse Hill area. As noted in Sustainable Development's report CR\_2729, Edmonton Energy and Technology Park is unlikely to be developed without some public sector upfront support.

A traffic network study completed recently to support a future Area Structure Plan

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amendment for the Edmonton Energy and Technology Park indicates that the Manning/Meridian interchange will be needed in the short to medium term to accommodate the future anticipated traffic volume growth with development in the Edmonton Energy and Technology Park and Horse Hill. The interchange would replace an existing at-grade intersection at Manning Drive and 195 Avenue/18 Street and would provide all-directional access between Manning Drive, Horse Hill and the Edmonton Energy and Technology Park.

The Manning and 195 Avenue/18 Street intersection is currently an at-grade unsignalized all-directional intersection. The existing intersection has low side-street volumes. With development of the Edmonton Energy and Technology Park and Horse Hill areas, the side-street traffic volumes at the intersection are expected to increase and the intersection will need to be upgraded in the short term. The signalization of the Manning and 195 Avenue/18 Street intersection would be an interim solution for area traffic prior to and during the Manning/Meridian interchange construction. As Manning Drive north of Anthony Henday is under provincial jurisdiction, any modification to the intersection would require approval of Alberta Transportation. To date, Alberta Transportation has not been supportive of traffic signals at the Manning and 195 Avenue/18 Street intersection.

The City, in collaboration with Alberta Transportation, is currently undertaking a traffic safety review along Manning Drive, including the Manning and 195 Avenue/18 Street intersection. The study is expected to be completed by the end of 2015 and may help Alberta Transportation to support traffic signals along Manning Drive as a viable staging option for area access.

An interchange at Manning/Meridian would benefit both the Edmonton Energy and Technology Park and the Horse Hill Area Structure Plan. The greatest return on investment on the interchange is anticipated to come from development of the Edmonton Energy and Technology Park. The interchange and development of the Edmonton Energy and Technology Park would support Council's initiative for Economic Development - Heartland and the City's goals to "Diversify Edmonton's Economy" and "Ensure Edmonton's Financial Sustainability".

Development in the Edmonton Energy and Technology Park to date has been limited. It is unlikely that development will occur as desired without infrastructure investment. A significant impediment to development taking place in the Edmonton Energy and Technology Park currently is the lack of existing infrastructure and its associated cost. If spurring industrial development in the Edmonton Energy and Technology Park is deemed critical, a number of key infrastructure projects should be considered, including the construction of intersection upgrades and/or interchanges, a stormwater solution, and arterial roadways as well as the provision of power, water services, and a pipeline corridor. The key infrastructure components that will influence development taking place in the Edmonton Energy and Technology Park are thought to be the transportation and

stormwater drainage infrastructure components further described in the following sections.

### Edmonton Energy and Technology Park - Transportation

Access to Edmonton Energy and Technology Park is currently available from one interchange (the Anthony Henday and 66 Street interchange) and 11 at-grade unimproved access points (4 along Manning Drive, 6 along Highway 37, and 195 Avenue from the west).

The existing roadways within the Edmonton Energy and Technology Park are rural roads that have not been upgraded, with the exception of a short section of 66 Street immediately north of Anthony Henday, which was upgraded with interchange construction. The Area Structure Plan includes an extensive arterial network. This network is currently being reviewed with the intention to update it and make it more efficient.

The main transportation infrastructure projects that should be focused on in the short to medium term include:

- upgrades and signalization of the Manning Drive/18 Street/195 Avenue intersection
- the area arterial network (planning of the network and construction of some of the key arterials)
- an interchange at Manning Drive and Meridian Street
- planning for a heavy haul bridge (engineering study discussions amongst multiple municipalities are underway)

### Edmonton Energy and Technology Park - Stormwater Drainage

The Edmonton Energy and Technology Park has two significant constraints related to managing stormwater:

1. Horsehill Creek currently handles Edmonton Energy and Technology Park drainage but is too eroded to manage post-development stormwater from the Edmonton Energy and Technology Park.
2. The western part of the Edmonton Energy and Technology Park falls under a bird hazard mitigation regulation to protect aircraft flying at the Canadian Forces Base Edmonton. The regulation limits the size and configuration of stormwater management ponds.

Given these constraints, the ultimate solution proposed at the Area Structure Plan stage was an underground trunk system that would connect numerous stormwater ponds to an outlet structure at Manning Drive and then continue to the North Saskatchewan River. However, the extensive requirements associated with this solution and

associated cost jeopardize the competitiveness of the Edmonton Energy and Technology Park with other neighbouring business parks.

Alternative solutions are being explored including methods of conveying water overland and the use of Low Impact Design measures. Despite the potential change in overall stormwater proposals, the system will likely require an outfall and oversized trunk. City Council has already approved \$2 million to cover about two thirds of the cost of the first phase of the outfall and storm trunk that will be constructed with the first phase of the Horse Hill Area Structure Plan. Given the size of the drainage basin, it is likely that City funding will be required to complete a robust stormwater management system that protects Horsehill Creek.

Stormwater Drainage Priorities for the Edmonton Energy and Technology Park in the short and medium term include:

- planning, design, approval and construction of a cost-effective stormwater system
- continuation of cost shared funding for some elements of the storm water management system through Horse Hill for the Edmonton Energy and Technology Park

### Edmonton Energy and Technology Park - Infrastructure Investment

To address the two largest key infrastructure components and increase the likelihood of development occurring in the near term, an investment in both transportation and stormwater drainage is needed.

The October 5, 2015, Sustainable Development report CR\_2729 (Non-residential Tax Base), identifies the need for the City to grow its industrial areas as well as the need to make investments in industrial areas.

Consideration could be given to funding not only the Manning/Meridian interchange but rather a bundle of key infrastructure projects to advance the development readiness of the Edmonton Energy and Technology Park.

Should Council chose to move forward with the selection of the Edmonton Energy and Technology Park project bundle as a Provincial-Territorial Infrastructure Component of the New Building Canada Fund recommended priority project, it is suggested that the Edmonton Energy and Technology Park project bundle include the following infrastructure projects:

- upgraded and signalized intersection at the Manning Drive/18 Street/195 Avenue intersection
- design and construction of key arterials
- design of an area stormwater system and construction of key components

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- design and construction of an interchange at Manning Drive and Meridian Street.

A high level estimate for the work included in the Edmonton Energy and Technology Park project bundle is in the order of of \$230 Million. It should be noted that some arterial road and stormwater drainage work would be eligible for recoveries under the Arterial Road Assessments and the Permanent Area Contribution programs. Typically, \$150 million to \$160 million would be covered by developers and levy programs.

### Anthony Henday Drive and 135 Street (Heritage Valley Trail) Interchange

Anthony Henday Drive is a designated provincial highway that operates as a ring road within Edmonton. When this section of Anthony Henday was completed in 2006, two temporary at-grade right-in/right-out intersections were constructed at 119 Street and 127 Street. The Anthony Henday Drive and the 119 Street and 127 Street right-in/right-out intersections were constructed as temporary improvements and do not meet current design standards, which impacts traffic flow on Anthony Henday Drive. The Province has an interest in seeing improvements at this location, or alternatively closure of the at-grade intersections.

With construction of the Anthony Henday Drive and 135 Street interchange, the two existing at-grade intersections at 119 Street and 127 Street would be removed. The interchange location is shown in Attachment 2. Concept planning for this interchange is complete and discussions with Alberta Transportation regarding the interchange are ongoing.

The 2015-2024 Capital Investment Agenda identifies the requirement for interchange upgrades along the Anthony Henday corridor, which could include the construction of the Anthony Henday and 135 Street interchange. An interchange at this location is anticipated to be required in the short to medium term to meet the demands of the existing and future traffic volumes and to serve the needs of Heritage Valley, including the future Heritage Valley Park and Ride.

Preliminary engineering for the Heritage Valley Park and Ride was completed in 2010, and the City is currently in discussions with the Province to obtain the land in the Transportation Utilities Corridor that is required for the park and ride. Next steps would include confirming the design, followed by construction of the park and ride. Subject to securing the remaining funding from the Province, the expected completion of the construction would be late 2019. The park and ride would need to be operational no later than March 2020 when the Century Park lease expires. The construction of a park and ride at this location would increase traffic demand in this area, resulting in need for road network improvements including an increased need for upgrades to the right-in/right-out intersection at Anthony Henday Drive and 127 Street.

The Anthony Henday and 135 Street interchange would provide all-directional access between Anthony Henday Drive, Heritage Valley and Twin Brooks and provide access



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to current and future residential developments, the future Park and Ride location at Ellerslie Road and 127 Street (proposed to be open prior to 2020), as well as lands currently owned by Alberta Infrastructure that are anticipated to be developed as future institutional land uses.

The area to the north of the Anthony Henday and 135 Street interchange, Twin Brooks, is considered to be developed and has little or no remaining developable land. The Anthony Henday and 135 Street interchange would serve the existing area but would not derive a large benefit or return from it. The return on investment in an interchange at this location would come from the further development of Heritage Valley on the south side of Anthony Henday with development of residential lands, the Heritage Valley Park and Ride, and the provincially-owned lands anticipated to be used for institutional uses.

Residential development is continuing to take place at a steady pace in the Heritage Valley area. Traffic volumes are steadily rising on the main arterials in the area, including Ellerslie Road and 111 Street/James Mowatt Trail. In the near future additional access to the area will be provided with the completion of the QEII/41 Avenue SW interchange at the south end of the Heritage Valley. However, congestion is still anticipated to increase along Ellerslie Road and 111 Street/James Mowatt Trail with continued development. The growth in traffic volume may begin to constrain the City's ability to approve further developments in the area unless the congestion on Ellerslie Road and/or 111 Street/James Mowatt Trail is addressed.

As the Anthony Henday and 135 Street interchange will facilitate access to the Heritage Valley Park & Ride, its construction would support Council's initiative for Public Transit and the City's goal to "Enhance Use of Public Transit & Active Modes of Transportation".

An infrastructure investment in Heritage Valley would need to include the Anthony Henday and 135 Street interchange as well as portions of the arterials that lead up to it. A high level estimate of the interchange and arterial costs would be in the order of \$125 million. It should be noted that the arterial work outside the interchange area would be cost recoverable under the Arterial Road Assessments Program.

### Summary

Administration's initial screening of the interchange priorities led to the recommendation of the Anthony Henday/135 Street interchange as the top candidate for the Provincial-Territorial Infrastructure Component of the New Building Canada Fund.

Taking into account additional criteria, including the various Council initiatives, priorities and goals, Council may choose to prioritize the Edmonton Energy and Technology Park project bundle, including the Manning/Meridian interchange, as an additional candidate project for the Provincial-Territorial Infrastructure Component of the New Building Canada Fund. However, in the case of Edmonton Energy and Technology Park project

bundle it would be appropriate for Council to first provide direction with respect to the degree to which, and where, public funds should contribute to infrastructure servicing that is otherwise provided by developers. The October 5, 2015, Sustainable Development's report CR\_2729, Non-Residential Tax Base, provides additional context for this discussion.

### **Budget/Financial Implications**

If either of these projects advance within the current capital budget cycle, tax-supported debt is contemplated to fund the City's share of the projects recommended for Provincial-Territorial Infrastructure Component funding. The level of provincial and federal government funding will impact the total amount of City debt and debt servicing. An analysis of debt impacts as well as a funding strategy would need to be developed upon Council providing direction on the priority project to advance for program funding. If these projects are funded in the next 4-year capital budget cycle, the City's share could be prioritized against other projects eligible for Municipal Sustainability Initiative or pay-as-you-go funding.

The New Building Canada Fund will contribute up to one-third of total eligible project costs, or 25 percent in the case of Public-Private Partnership projects. The City is therefore required to contribute anywhere from one-third to 50 percent of the total project costs, assuming that the two other orders of government provided their maximum contribution. The City would also be required to fund any ineligible costs the federal and provincial governments do not cover, such as land purchase.

### **Attachments**

1. Manning / Meridian Interchange Area Map
2. Anthony Henday Drive and 135 Street Interchange Area Map