Attachment 5

Environment And Climate Review

The updated Complete Streets draft policy is aligned with many aspects of the City Plan, including the Greener As We Grow pillar and explicitly recognizes climate resilience as a value to be considered in safe and accessible neighbourhoods. This policy has the potential to provide positive impacts on climate change mitigation and air quality, climate adaptation, and biodiversity.

Greenhouse Gas Mitigation and Air Quality	
Mode shift to lower carbon forms of transportation and increased tree canopy supports the City's Community Energy Transition Strategy and may improve local air quality.	Transportation makes up thirty-one percent of Edmonton's greenhouse gas (GHG) emissions. Creating safe spaces that accommodate other modes of transportation beyond passenger vehicles may encourage other forms of transportation that have a lower carbon footprint such as cycling, walking, scootering, or transit. By enabling mode shifting, the Complete Streets policy supports the City's target of fifty percent of all trips made by transit and active transportation by 2040[1]. A connected network of pathways across the City further encourages active transportation because it eases friction in getting from one location to another. Support for a zero emission vehicle charge network is also likely to reduce GHG emissions in the community and improve air emissions in support of the Community Energy Transition Strategy.[2] Shifting to lower carbon modes of transportation has the added benefit of improving local air quality. Vehicles contribute to air pollution through the emissions from fossil fuel combustion as well as emissions from tire and brake lining wear. Fewer vehicles on the road also results in reduced air pollutants such as nitrogen oxides and particulate matter, leading to improved local air quality.[3,4]

[1] City of Edmonton, April 29, 2021, Edmonton's Community Energy Transition Strategy And Action Plan.
[2] Ibid.
[3] Government of Canada. February 2022, Health Impacts Of Traffic-Related Air Pollution In Canada.
[4] Government of Canada. June 14, 2023, Traffic and air quality: Driving change through research.

	Green infrastructure such as trees and plants help filter air pollutants and also improve air quality.
Climate Adaptation	
Climate adaptation measures such as increased tree canopy and low impact development help to mitigate the expected impacts of climate change.	Edmonton is expected to see changes in extreme temperature and precipitation patterns, more extreme weather, and altered ecosystems as a result of climate change. These changes will impact community health and safety, social well-being, and the natural environment. Investing in green infrastructure within the Complete Streets approach has the potential to mitigate some of these impacts and is aligned with many of the goals identified in Climate Resilient Edmonton: Adaptation Strategy and Action Plan.[5] Increased tree canopy will provide shade and help cool urban areas, along with other vegetation and natural areas. This helps to mitigate the effects of extreme temperatures and urban heat island effect (higher temperatures in a city than in the surrounding rural area). This also has the potential added benefit of reducing air conditioning electrical load and the associated greenhouse gases and other air emissions. Low impact development (LID) features such as incorporation of plants, engineered soils and natural processes help to capture and filter stormwater runoff close to its source, reducing the risk of local flooding and improving water quality. LID facilities that slow stormwater from entering the sewer system and reduces demands on the sewer infrastructure.[6]
Biodiversity and other Environmental Benefits	
Although not the primary focus of the Complete Streets policy, there are	Another potential benefit of the Complete Streets policy is sustainable land use and the creation or preservation of natural areas. The Draft Complete Streets Design

[5] City of Edmonton. November 2018, Climate Resilient Edmonton: Adaptation Strategy and Action Plan.
[6] EPCOR website. Accessed Mar 31, 2025, Low Impact Development

other potential environmental benefits such as healthy ecosystems that support biodiversity in the City.	Standards document contains many aspects of sustainability including incorporating natural areas, planting and survivability of trees, retaining mature trees, considering wildlife passages, and maintaining healthy ecosystems through ecological planning. Biodiversity is declining faster than at any time in human history. Canada was a leader in developing the Kunming-Montreal Global Biodiversity Framework to halt and reverse biodiversity loss in 2022.[7] Cities such as Edmonton have an important role to play in maintaining healthy ecosystems, not only in the river valley and ravine system, but throughout the city. In addition to sequestering carbon, providing cooling, and helping to mitigate the effects of extreme flood events, trees and urban forests support biodiversity. They contribute to a healthy ecosystem as habitat and food for birds, mammals, insects, moss and fungi. Urban forests and green spaces, including tree-lined streets, are important wildlife habitats while traveling.

[7] Government of Canada. July 30, 2024, Canada's 2030 Nature Strategy: Halting and Reversing Biodiversity Loss in Canada.