

Working in tandem:

The role of planners in Edmonton's 102nd & 83rd Avenue separated bike lane projects

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Abstract

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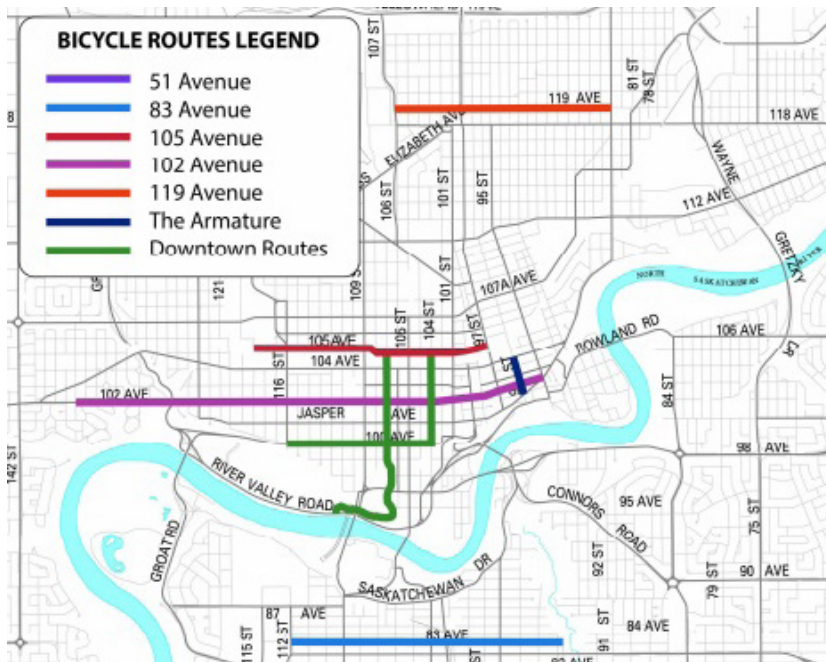
The 102nd & 83rd Avenue separated bike lanes will be installed in central Edmonton in the summer of 2016. These bike lanes – consisting mainly of a bi-directional bike lane separated from vehicular traffic by a concrete curb, as well as shared-use paths and bike boulevards – will connect inner city neighbourhoods to the University of Alberta and the downtown core. The degree of physical separation from vehicular traffic makes these bike lanes the first of their kind in inner city Edmonton.

This Case-in-Point explores recent developments in bike infrastructure in Edmonton, the 102nd & 83rd Avenue separated bike lanes, and City of Edmonton planners' involvement in the planning and design of the lanes, despite the project being formally managed by City engineers. The relative ongoing success of this project is the result of a concerted effort by engineers and other municipal leaders to coordinate with multidisciplinary working groups – including planners – at various stages of planning and design. Upon completion of the bike lanes, there are various opportunities for planners to explore and research how this type of infrastructure can encourage more urban cycling and multimodal trips.

Introduction

In an effort to curb reliance on motor vehicles, many cities are beginning to recognize the benefits of cycling as a cost-effective, inclusive, and low-carbon transportation mode. As a result, cities across the country have been planning for more urban cycling in recent years, reflected both in planning policy directives and on city streets in the form of bike lanes and other active transportation infrastructure like shared-use paths. Much research has been conducted on the benefits of bike infrastructure and how cyclists prefer riding on bike infrastructure rather than with mixed traffic, and how physical separation from vehicular traffic can make urban cycling safer and more attractive.

In recent years, many cities have installed separated bike infrastructure as a more visible and direct means to encourage more cycling and shift urban transportation trends away from private automobiles. Edmonton, Alberta is one such city attempting to make this mode shift. The City of Edmonton supports urban cycling in its transportation master plan *The Way We Move* by outlining various strategic actions including the development of a city-wide bicycle transportation network and the integration of bicycles with public bus and rail transportation. In order to fulfil this mandate, in 2014, Edmonton City Council approved a four-year bike infrastructure plan for inner-city bike routes (CoE, 2014). The 102nd & 83rd Avenue bike routes will be the



Major bike routes to be built in 2014-2018 pending budget approval (CoE, 2014)

first bike lane projects to be completed as part of this plan, which will add capacity for Edmonton to support more urban bicycle transportation in the years to come.

Cycling in Edmonton

Transportation in Edmonton is dominated by private automobiles. According to the 2011 National Household Survey, 82% of Edmontonians rely on private automobiles for their daily commutes, while only 1.1% cycle (SC, 2011). A regional household travel survey conducted recently by the City of Edmonton may provide a more accurate statistic in the months ahead. But despite the city's auto-centric travel trends, Edmonton already has a diverse network of bicycle infrastructure, with signed bike routes, on-street painted bike lanes, bike contraflow

lanes – i.e. painted bike lanes that flow in the opposite direction of vehicular traffic on a one-way street – and shared-use paths (SUPs), which are fully separated from vehicles. Bicycle infrastructure can be found throughout the city, but is more prevalent in newer urban neighbourhoods, many of which are more suburban in nature – i.e. single-use neighborhoods, mostly residential. Some bike lanes and SUPs in Edmonton's suburban areas are integrated with other sustainable forms of transportation, like the Light Rail Transit system.

Rates of cycling in central and inner-city areas of Edmonton are generally higher compared to other parts of the city. Much of the bicycle infrastructure in these areas are already well-used, including the SUPs on the High Level Bridge. Many of the SUPs inside the North Saskatchewan River valley are used for recreational purposes.

Transportation in suburban areas is still dominated by private automobiles. In these areas, bike infrastructure projects can be contentious. City Council has recently supported several initiatives where roads are closed to cars but remain open to bikes. City Council has also mandated the removal of several bike lanes in suburban areas – 40th Avenue, 95th Avenue, and 106th Street – in hopes of potentially replacing them with higher-quality bike infrastructure separated from vehicular traffic, like separated bike lanes (CBC, 2015).

Big decisions like these have been met with strong opinions on all sides. Existing cyclists and cycling advocates are critical of these decisions, as the removal of bike lanes creates gaps in bike infrastructure for existing cyclists and likely do not encourage others to cycle (EBC, 2015). However, others may claim that these decisions are supported by local residents, the majority of whom do not cycle regularly. A common argument from some City Council members and the general public for the disinvestment and/or removal of bike infrastructure is Edmonton's reputation as a winter city, and the subsequent winter maintenance issues this kind of infrastructure faces (Walters, 2015). Incidentally, this reasoning is at odds with Edmonton's *Winter City Strategy*, which is actively attempting to change the tone of this conversation to one of providing a city that supports active transportation in all seasons.

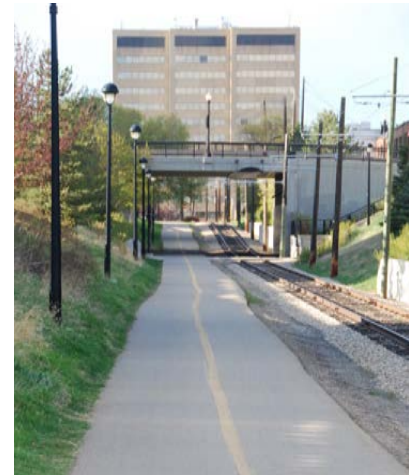
Developments in bike infrastructure

Cities are beginning to understand the role that bike infrastructure plays in urban transportation. Simply put, people won't cycle if they feel it is unsafe to do so (Pucher et al., 2011; Pucher & Buehler, 2010), as various studies have shown. These same studies show that well-designed bike infrastructure offering physical separation of cyclists from vehicular traffic makes cycling safe and encourages more people to cycle. Many bike infrastructure interventions have been implemented in Edmonton (and elsewhere) in recent years.

Painted bike lanes are often found in Edmonton's inner-city neighbourhoods and offer clear visual separation between bicycles and vehicular traffic. Some painted bike lanes in Edmonton are contraflow – i.e. flowing in the opposite direction of traffic on a one-way street. These interventions are usually the most cost effective option for providing space for cyclists to ride; however, it is difficult to delineate the movement of bikes and vehicles at conflict points, like intersections, and these lanes are poorly maintained in the winter, rendering them unusable for a large portion of the year.

Bike boulevards are less common in Edmonton but are found in many other cities across Canada. These streets are traffic-calmed to reduce traffic volume and traffic speed, making cycling with mixed

traffic safer. Traffic-calming measures might include speed humps, roundabouts, reduced speed limits, and strategic road closures or one-way sections.



The "Ribbon of Steel" shared-use path in downtown Edmonton

Separated bike lanes (or cycle-tracks) offer cyclists visual and physical separation from vehicular traffic, usually consisting of a one-way or bi-directional bike lane separated from vehicle traffic by physical barriers like concrete curbs, plastic posts, and/or flower pots. Buffered bike lanes use a wide strip of paint to act as a visual barrier. Separated bike lanes require a high degree of investment and often require bike-specific signage and traffic signals. Many cities in Canada have invested in separated bike lanes to great success, including Vancouver, Montreal, Toronto, and Calgary, for example, which all have implemented this infrastructure in recent years. To capitalize on the popularity of separated bike lanes, Edmonton will be installing its first separated bike lanes in summer 2016.

102nd & 83rd Avenue separated bike lanes

The City of Edmonton will be installing its very first separated bike lanes in the summer of 2016 (CoE, 2015). The 3.3km-long 102nd Avenue separated bike lane will be installed directly west of the downtown core, serving people cycling within these neighbourhoods and to the central business district. The 4.2km-long 83rd Avenue bike lane will be installed directly east of the University of Alberta main campus, serving people cycling within these neighbourhoods and to the University. Both routes will feature bi-directional bike lanes to be installed on the roadway and

separated from vehicular traffic by a concrete curb, in most cases. For busier and wider portions of 102nd Avenue, a shared-use path will be installed in place of a separated bike lane; and some quieter portions of the 83rd Avenue bike lane will exist in the form of a bike boulevard. Other design considerations involve the coordination of public transit service along parts of these bike routes. In areas where these bike routes share the road with bus routes, the bike lanes will be installed behind bus stops and bus shelters to reduce bus/bike conflicts. Major intersections with a high vehicular volume are also designed to improve cyclist safety and visibility, with designated cyclist traffic signals and signage.

The 102nd & 83rd Avenue separated bike lanes will be the first of their kind installed in Edmonton. Despite the car-centric planning practices popular in the city over the past few decades, the installation of bike infrastructure that accommodates existing cyclists and encourages more to take up cycling is in line with Edmonton's long-range planning goals to become a more sustainable and resilient city. These goals are reflective of the goals and planning directives of many other cities across the continent that are similarly looking to shift focus away from auto-oriented planning, and towards planning that promotes active transportation and healthy communities.



Rendering of 102nd Avenue before and after separated bike lane installation (CoE, 2015)

Implications for the planning profession

A multidisciplinary project

The 102nd & 83rd Avenue separated bike lane project started as an engineering project under the mandate of City of Edmonton Engineering Services. A recent corporate reorganization now houses this project within the Sustainable Transportation section of the City's Sustainable Development department. Despite the project's beginnings as an engineering project, the design and planning of these bike lanes involved input from various municipal departments from the start, including input from planners and urban designers within the Sustainable Development department, Edmonton Transit System, and operations and maintenance groups

to ensure the new designs could be maintained to a high operational standard in all seasons. These working groups and departments were involved from the beginning stages of the project on a multidisciplinary steering committee. Multidisciplinary involvement was integral in this project. Edmonton's many future transportation projects will require similar multidisciplinary involvement from both engineers and planners.

The final designs of the bike lanes have been received well internally among City of Edmonton staff and Council. Much of the relative success of this project can be credited to a strong effort by the City to consult broadly and thoroughly – both internally and externally – on route plans and designs.

The role of planners

Planners play an important role by writing policy documents and directives to encourage cities to increase bicycle mode share. Edmonton's Transportation Master Plan (*The Way We Move*), Bicycle Master Plan, and Complete Streets Guidelines include transportation goals, targets, and design guidance to encourage and foster a more sustainable and resilient city. While it is ultimately left to individual City Councils to follow through with these goals by providing financial and human resources, without these policy documents it's possible that separated bike infrastructure likely would never be considered in Edmonton.

Similarly, planners could also explore the role that regulatory frameworks play in supporting separated bike infrastructure. For example, development guidelines and zoning bylaws could be created to require separated bike infrastructure (lanes or shared-use paths) for new developments in the city. Such requirements do not currently exist, but could be a possibility for the future of Edmonton given planners' input.

Planners and engineers also play a role in public consultation and advocating for the public interest. In the case of the 102nd & 83rd Avenue separated bike lanes, the public was consulted regularly throughout the project's planning and design process in the summer and fall of 2015. Change can be contentious, and communicating this change to a large group of people with varying interests and priorities can be difficult. While professional planners were not a critical component of the public consultation process for this project, there is great potential to involve them more in similar active transportation projects in the future.

Conclusions

In recent years, many cities have installed separated bike infrastructure to encourage more people to cycle. This strategy may help cities achieve their sustainability goals and transportation planning mandates in order to foster a transportation network less reliant on private automobiles and fossil fuels. Planners play an important



A shared-use path running parallel to the Light Rail Transit system in south Edmonton

role in ensuring active transportation infrastructure projects are considered as cities continue to grow. Even if planners don't play a direct role in leading the design and implementation of these projects – as was the case for the 102nd & 83rd Avenue separated bike lanes in Edmonton – planners do play a role in making sure city-wide planning mandates are met, and that bike infrastructure is designed for cyclists of all ages and abilities.

As the 102nd & 83rd Avenue separated bike lanes have not been installed at this point in time, the outcomes of this project are not yet known. There is, however, great opportunity to use these bike lanes as a learning opportunity for the City of Edmonton, by not only exploring how this infrastructure encourages and attracts new cyclists, for example, but also exploring how the planning and design process for this project can be replicated and emulated for future active transportation infrastructure projects in the city.

Resources

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