

106th Street Bike Route Winter/Spring Maintenance Pilot Project

Recommendation:

That the October 15, 2014, Transportation Services report CR_1422, be received for information.

Report Summary

This report summarizes the results of the 106th Street Bike Route Winter/Spring Maintenance Pilot Project completed over the 2013/2014 winter and spring season.

Previous Council/Committee Action

At the October 15, 2014, Transportation Committee meeting, the October 15, 2014, Transportation Services report CR_1422 was postponed to the October 29, 2014, Transportation Committee meeting.

At the June 5, 2014, Transportation Committee meeting, the following motion was passed:

That Administration provide a report on the 106th Street Bike Route Winter/Spring Pilot Project.

Report

Background Information

It is recognized that the number of recreational cyclists is lower in the winter months, however, cycling continues for commuter trips to work, school and daily activities. Research and information reported from other cities show that the level of maintenance applied to on-street facilities is a large factor in the decision to choose cycling as a mode of transportation for any particular day or activity. Cyclists must feel comfortable riding on the roadway surface.

The 106th Street Bike Route Winter/Spring Maintenance Pilot Project was implemented over the 2013/2014 winter and spring seasons in an effort to deliver a more effective on-street bike route maintenance program for the entire Priority Bicycle Network in the future. The pilot project addressed both the winter maintenance and spring clean-up associated with on-street bike routes.

Pilot Project Scope

The pilot project focused on the 106 Street on-street bike route between Saskatchewan Drive and 29 Avenue. This seven kilometre section of 106 Street accommodates a high

level of cyclist activity and includes a wide range of on-street bike route design treatments such as reserved bike lanes, buffered bike lanes and sharrows adjacent to sidewalks, parking lanes and boulevards.

In accordance with the City's Snow and Ice Control policy C409G, this collector roadway will be plowed within 48 hours following the end of a storm event to achieve bare pavement (a snow pack of less than two centimetres). The policy also states that the snow may be removed as required when the driving width or parking area restricts safe vehicular movement. Therefore, the objective of the pilot was to plow 106 Street to bare pavement following a snow event and remove the accumulated windrows as required to achieve a bike lane of at least one metre in width.

Generally, collector roadways are swept during the spring clean-up at the same time as the neighbourhood roadways. As part of the pilot project, the street sweeping along 106 Street was planned to be completed as per the City's regular spring clean-up for a collector roadway with the objective of sweeping the bike route prior to May 2014.

Throughout the pilot project, the snow clearing and street cleaning activities were monitored and assessed. In addition, public surveys were completed over the course of the pilot project to provide benchmark and follow-up data regarding the effectiveness and perceptions of the pilot.

Pilot Project Results

Winter Maintenance

In general, the 2013/2014 winter season proved to be a challenge for roadway maintenance. The total winter snowfall was 25% above average with almost double the average snowfall through the October through December period, resulted in significant windrows early in the season. To compound this, the January thaw created runoff and slumping of the higher than normal windrows and the subsequent freeze up resulted in hazardous ice patches and uneven surfaces.

Over the course of the winter, the plowing along 106 Street was generally completed within 48 hours following a storm event in accordance to the Snow and Ice Control Policy C409G. The snow plowing typically leaves a thin layer of snow in the vehicle travel lanes that results in bare pavement over a short period of time as the snow migrates towards the outside edge of the roadway and the remaining snow melts away due to tire friction. The plowing is less effective in addressing the needs of cyclists as the snow and debris from the vehicle lanes migrate towards the outside edge of the roadway where the on-street bike routes are typically marked. This creates a "brown sugar" type material made up of sand, salt and snow that accumulates and sometimes compacts within the on-street bike route area of the road. This material often covers the bike lane and sharrow pavement markings and makes it more difficult for cyclists to ride through. Efforts to broom the on-street bike route areas of the roadway were not effective in clearing the roadway surface.

Overall, the windrows along 106 Street were well maintained to provide a one metre clear zone for cyclists. The main challenge was in maintaining this clear zone requirement along sections of 106 Street where curblined sidewalk did not provide boulevard space to pile the snow.

Additional winter maintenance in support of the pilot project included added windrow removal where curblined sidewalk did not provide boulevard space to pile the snow along with additional plowing to clean up windrows that had slumped and encroached into the on-street bike route area of the roadway. This additional work was estimated at \$5,000.

Spring Maintenance

The removal of sand, gravel and debris along 106 Street was completed before the beginning of May 2014 as part of the City's regular spring clean-up for a collector roadway. This resulted in the removal of large amounts of material, however, sand and gravel migrated into the bike lanes periodically throughout the spring and summer season. Scheduling the sweeping of the 106 Street bike route in advance of the regular spring clean-up program would cost an additional \$1,500 per km.

Public Input

A series of public surveys, with a focus on input from cyclists who regularly use the 106 Street on-street bike route, were completed throughout the winter and spring seasons. In general, most of these cyclists indicated they prefer to cycle along routes with dedicated bike lanes and they are more likely to cycle during the winter if on-street bike routes are clear of snow.

Overall, approximately 60% of cyclists who responded reported that the quality of snow removal in street sweeping was of moderate to high quality. The respondents' main concern with the quality of snow clearing along 106 Street was associated with the presence of the brown sugar type material formed by a combination of sand, salt and snow in the bike lanes along with sections of the route where the windrow had encroached into the on-street bike route area of the roadway. In terms of the quality of the spring clean-up along 106 Street, some felt the sweeping could have been more thorough in the on-street bike route area of the roadway.

Cyclist Activity

The 106 Street on-street bike route is well used, accommodating between 300 cyclists per day in the summer months. Cyclist activity does decline in the winter months, with a peak activity averaging 40 cyclists per day near the University area.

Next Steps

The 106th Street Bike Route Winter/Spring Maintenance Pilot Project will be extended

for another year to obtain a better sampling of what can be achieved in a normal snow year. Lessons learned during this pilot project will help us implement a more effective bike route maintenance program for the City's major bike routes in the future.

Policy

- Active Transportation Policy C544
- Snow and Ice Control Policy C409G

Corporate Outcomes

- Edmontonians use public transit and active modes of transportation.
- Edmontonians use facilities and services that promote healthy living.