

CENTRE CITY CYCLE TRACK NETWORK PILOT PROJECT FINAL REPORT

EXECUTIVE SUMMARY

Council directed the Transportation Department to pilot a 6.5 km network of cycle tracks and shared space in the Centre City for 18 months and provide a final pilot project report in December 2016.

Since the network opened in June 2015, over 1.2 million bicycle trips have been recorded at automated counters in the middle of the three pilot corridors (12 Avenue S, 8/Stephen Avenue/9 Avenue S, 5 Street S.W.). Daily weekday bicycle trips along pilot cycle track routes have tripled between September 2014 and September 2016. The inbound peak period bicycle mode split increased to 3% (increasing from 1.9% in 2010) moving towards achieving the 2020 downtown mode split target of 4% identified in the Cycling Strategy. Bicycle trips into and out of downtown increased by 40% between the 2015 and 2016 annual May Central Business District cordon count. A telephone survey finds that two-thirds of Calgarians support the cycle track pilot and of those who have tried cycling on it, 92% support the cycle track pilot.

The extensive data collected for the pilot shows that women and children make up a higher proportion of people riding, peak period travel times for motor vehicles have been minimally impacted and sidewalk riding has decreased. In piloting the network, Administration has learned many lessons with public feedback helping influence adjustments. If Council decides to make the network permanent, there are additional adjustments which are recommended to improve experience for businesses and Calgarians walking, cycling and driving along the routes.

The cycle track network aims to balance all travel modes downtown and maintain as much on-street parking as possible. While not every target for the pilot project has been met, it has positively contributed to making Calgary a better place to live, work and play and has made cycling a more viable travel choice in Calgary's busiest area.

ADMINISTRATION RECOMMENDATION(S)

1. That Council successfully conclude the cycle track network pilot project.
2. Direct Administration to install permanent measures along the pilot cycle track network within existing resources.
3. Direct Administration to continue to improve the cycle track network and continue to address parking, loading, transit and traffic issues.

PREVIOUS COUNCIL DIRECTION / POLICY

Administration has presented five reports regarding the cycle track pilot and Stephen Avenue pilot:

- April 2014: TT2014-0159 Centre City Pilot Cycle Track Network Pilot Project- To seek approval of the pilot network.

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- June 2014: TT2014-0482 Evaluation Plan for Centre City Pilot Cycle Track Network- To approve an evaluation plan.
- July 2014: TT2014-0569 Revised Evaluation Plan for Centre City Pilot Cycle Track Network.- To approve a revised evaluation plan with specific Stephen Avenue performance measures.
- December 2014: TT2014-0889 Centre City Cycle Track Pilot and Stephen Avenue Pilot Evaluation- To approve an updated evaluation plan with baseline information and targets.
- December 2015- TT2015-0850 Centre City Cycle Track Network Pilot Project Update- To provide a project update and data after three months of operations.

At the 2014 April 28 Regular Meeting of Council, relative to report TT2014-0159, Council adopted the following recommendations:

1. Approve the Centre City Cycle Track Pilot Project;
2. Direct Administration to open the Centre City Cycle Track Pilot Project in 2015 based on Alternative 3, the Centre City Cycle Track Pilot Project Network Map (Attachment 2) with the exception of 1st Street SE.
3. Direct Administration to create an evaluation plan for the pilot, incorporating what will be measured, including but not limited to the measurements in Attachment 3, as well as frequency and severity of collisions, impact to local businesses, and impact on motorist and pedestrian travel time. The plan should also include targets and benchmarks for each measurement and a description of how data is to be captured. A draft plan to be presented to SPC on Transportation and Transit for information no later than June 2014; and
4. Direct Administration to report back to the SPC on Transportation and Transit on the results of the Centre City Cycle Track Pilot Project Network with a final report no later than December 2016.

BACKGROUND

Pilot Project

In April 2014, Council approved the Centre City Cycle Track Pilot Project Network map provided on page 3 of Attachment 1 and directed Administration to open the network using temporary and flexible treatments in order to learn and make changes during the pilot. The 18-month pilot cycle track network opened on June 18, 2015. The project opened ahead of schedule and was delivered \$1.65 million under the Council approved \$7.1 million budget.

Administration has been tracking 311 calls related to the cycle track network pilot since April 10, 2015. As of November 1, 2016 the project team has received over 2, 032 service requests, with 55% of them received during construction and in the first month of the network opening. Project feedback guided over 100 adjustments during the pilot period including:

- Improving on-street parking/loading for businesses and residents

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- Adjusting signal timing
- Mitigating conflict points
- Improving cycle track transitions

Project Evaluation

The Centre City Cycle Track Pilot and Stephen Avenue Pilot Evaluation Plan was approved by Council in January 2015. As part of the Evaluation Plan, data was collected at ten locations across the pilot network at six different times from September 2014 to September 2016 under five themes:

1. Satisfaction
2. Safety
3. Walking, cycling and driving activities
4. Economic vitality
5. Demographics

Under these themes, Administration tracked nine performance measures along each of the cycle track routes and 11 performance measures along Stephen Avenue. In total there are over 80 data points. Economic vitality and demographics are secondary performance measures as external factors can influence these results.

The Transportation Department collected data in September 2014 to provide a baseline and collected final pilot project data in September 2016. A variety of data collection methods were used including:

- Manual counts and observations
- Video cameras with automated counting software
- Automated counters in or on the pavement
- GPS and stopwatch trials to record driving travel times
- Intercept surveys
- Telephone survey of 1,102 Calgarians conducted by Ipsos

INVESTIGATION: ALTERNATIVES AND ANALYSIS

The Centre City Cycle Track Pilot Network Summary (Attachment 1) summarizes:

- Results for individual corridors
- Observed trends during the pilot period
- Project adjustments and future improvements
- Communication and education efforts

The Evaluation Matrices for each route are provided on page 30 of Attachment 1. Overall the data indicates that while there have been positive changes with the implementation of the network, there have been impacts identified in other areas. The majority (70%) of the primary performance measures have been met or moved toward their target.

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Results

Satisfaction

The cycle track corridors are designed to balance the needs of people walking, cycling and driving. Maintaining or improving satisfaction with travel experience is important to ensure comfort on our roadways. A third-party telephone survey was used to track the Satisfaction performance measure in the Evaluation Plan. Satisfaction is based on how much a user 'liked' the experience travelling on the network. The survey also asked questions about the perception of safety and how cycle tracks influenced route choice. The results are summarized below and satisfaction for each pilot corridor is found in Appendix A of Attachment 1.

Driving satisfaction, perceived safety and route choice

- In 2016, 46% - 54% of people surveyed 'liked' their most recent driving experience on 12 Avenue, 9 Avenue, 8 Avenue and 5 Street. In 2014, 51%- 60% of people surveyed 'liked' their most recent driving experience on these same corridors. In 2016, 56% of people surveyed 'liked their most recent driving experience on Stephen Avenue. In 2014, 54% people surveyed 'liked their most recent driving experience 2016 on Stephen Avenue.
- 67% of drivers reported that the cycle track pilot has made no difference to their driving route choice.
- 93% of people driving felt safe travelling in a vehicle on the pilot corridors.

Walking satisfaction, safety and route choice

- Experience for people walking on the routes varied, where 56%- 63% of Calgarians reported they 'liked' their most recent walk and their satisfaction improved on 5 Street, 9 Avenue and 8 Avenue, while it decreased on 12 Avenue .
- 90% of people walking reported that cycle tracks have not made a difference to their route choice or they prefer to walk on cycle track streets.
- 91% of people walking reported they felt safe on pilot corridors.

Cycling satisfaction, safety and route choice

- The experience for people cycling has improved on all pilot routes and varies from 65% - 82% of Calgarians reporting they 'like' their most recent cycling experience, up from 12%-71% in 2014.
- The majority (77%) of people cycling say cycle tracks have made the cycling experience better downtown and 65% prefer to ride on streets with cycle tracks.
- 91% of people cycling reported feeling safe on pilot routes.

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Safety

Specific collision data is available per route in the Evaluation Matrices of Appendix A of Attachment 1. Motor vehicle collision frequency decreased or remained the same on each cycle track corridor.

While most people driving, cycling and walking report feeling safe along the cycle track corridors, during one year of the pilot project there were 39 reported bicycle collisions (26 injury collisions) and zero fatalities on pilot routes. In numerous instances, the project team reviewed locations where an incident occurred and implemented mitigation measures. These included additional dashed green paint at alleys and driveways, parking changes to improve sight lines for turning vehicles or additional signage for motorists or cyclists.

A Road Safety Review was conducted by an external engineering consultant and found no major safety issues. The Road Safety Review did identify minor items which should be adjusted should Council decide to make the pilot network permanent. The minor adjustments are in line with the project's approach of continuous improvements for improved travel experience, traffic operations and safety. Continued monitoring and future safety data will help The City continue to understand safety and operations for streets with cycle tracks.

Cycle track usage and impacts to other modes

Bicycle volumes have increased at eight of the ten count locations and targets have been met at five of the ten locations. Bicycle volumes are highest in middle of the network where cycle tracks intersect.

Unlawful sidewalk riding has decreased at all cycle track count locations from a network average of 16% in September 2014 to a network average of 2% in September 2016. People cycling against the flow of vehicle traffic has decreased from a network average of 5% in September 2014 to a network average of 0.2% in September 2016.

For the Evaluation Plan, travel time for automobiles travelling the entire length of the corridor was collected for specific peak periods in September 2014 and September 2016. A general decrease in downtown traffic contributed to travel time in an undetermined amount. The travel time data collected shows no increases beyond the target thresholds of anticipated delay:

- 5 Street (3 Avenue S.W. to 17 Avenue S.W.) southbound p.m. peak- 10 second increase
- 8 Avenue (11 Street SW to 3 Street S.W.)
 - Eastbound AM peak- 15 second decrease
 - Westbound PM peak- no change
- 12 Avenue (11 Street S.W. to Olympic Way S.E.) eastbound p.m. peak-240 second decrease.
 - This decrease is likely due to a higher baseline travel time from Hotel Arts construction delays in September 2014.
- 9 Avenue auto travel time is challenging to compare as construction hoarding affected September 2014 data and a construction at 3 Street S.E. resulted in a lane closure during September 2016 data collection

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To further understand cycle track impacts, Administration collected travel times for peak periods beyond what was required for the Evaluation Plan and conducted additional intersection analysis to determine delay at 12 Avenue and 5 Street S.W., 12 Avenue and Macleod Trail S.E. and 9 Avenue at 11 Street S.E. Overall, there has not been a significant change in delay at the intersections analyzed pre- and post-cycle track.

- There was a decrease in intersection delay during the morning peak period at 9 Avenue and 11 Street S.W. (from average intersection delay of 32 seconds per vehicle to 18 seconds per vehicle, or a decrease of 14 seconds). This is due to a decrease in intersection volume of about 650 vehicles (13 per cent) during the morning peak period between a count conducted in 2014 and again in 2016.
- Morning peak period travel time for automobiles on 12 Avenue has increased by 90 seconds and there is an increase in intersection delay during the morning peak period at 12 Avenue and 5 Street S.W. (from average intersection delay of 11 seconds per vehicle to 24 seconds per vehicle. Signal timing on 12 Avenue has been optimized during the pilot period, but Administration will revisit the roadway design after the pilot to address the lane shift that occurs on the corridor and could be contributing to additional travel time delay.

Every effort was made during construction to minimize the loss of on-street parking and maintain or replace lost loading zones. Parking was maintained where possible and since 2014 over 500 new parking stalls have been created downtown. A net gain of 130 parking stalls has been achieved to offset the loss of parking as a result of the cycle track pilot and other day to day adjustments to the parking inventory.

Economic Vitality

Multiple external factors influence the local economy, many of which are beyond the control of the municipal government. The recent and ongoing economic downturn and associated jobs lost in the Centre City has likely influenced economic performance measure outcomes. Intercept surveys with pedestrians and merchants along cycle track corridors have helped to provide insights regarding the impacts to business. Economic vitality data for individual corridors can be found in the Appendices of Attachment 1 but generally:

- Pedestrians surveyed along the corridors report on average visiting businesses the same number of times per week but spending about \$20 less per month.
- Merchants report on average 20 fewer customers per day.

The influence of the cycle tracks is difficult to extract from the overall economic downturn.

Demographics

The number and percentage of children and women riding on the corridors has increased. At the three middle count locations women make up 30% of people cycling (22% before the pilot) and children 1.3% (0.1% before the pilot) during weekday counts. On weekends, these numbers are even higher with 33% of people cycling being women and 3.3% children. The number of seniors has remained the same.

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Stephen Avenue Shared Space

Cycling on Stephen Avenue was formalized during the daytime hours as a result of the pilot. Overall, the shared space is functioning as intended and has the highest reported satisfaction for people cycling, walking and driving of all the pilot routes.

- There were no reported incidences of collisions involving a bicycle during the pilot period and no near miss or careless bicycle riding events noted during data collection. Administration has made note of feedback regarding near miss events reported through 311, informed Calgary Police Service and has provided targeted education about courteous cycling.
- 95% of people walking on Stephen Avenue reported feeling safe in the daytime.
- Over 90% of merchants surveyed believed the Stephen Avenue pilot allowing cycling during the day has brought a similar or more number of customers.

Stephen Avenue has provided an important connection in the network, specifically during the peak commuting hour. In the peak of summer and during events, pedestrian volumes make it very slow to bike along Stephen Avenue.

- During summer lunch hours, people cycling make up a very small proportion (1.4% to 1.9%) of all people using the street.
- During peak summer months high pedestrian volumes decrease the speed and volume of bicycle on the road

Feedback regarding operations from the Stephen Avenue Bicycle Advisory Committee is generally positive and constructive around continued enforcement and education efforts and how to improve closures and detours for events and programming on Stephen Avenue.

Lessons Learned and Post-Pilot Adjustments

Administration has learned many lessons in piloting and implementing an entire network. Evaluating the pilot allowed Administration to learn more about active modes data collection methods, a field that is continuing to evolve best practices.

Several different design treatments were tried, tested and modified for the pilot period. While many adjustments were made, certain upgrades and adjustments were not seen as fiscally prudent without the permanency of the pilot. These post- pilot changes would include:

- Continuing to improve parking and loading access for businesses
- Continuing to optimize traffic signals while reducing conflicts between cyclists, pedestrians and motor vehicles
- Continuing to improve conditions for those riding in the cycle tracks
- Upgrading traffic signals and curb work as needed
- Working with CMLC to advance cycling improvements in East Village

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Stakeholder Engagement, Research and Communication

Research

Ipsos conducted a cycle track pilot project telephone survey in September 2014, 2015 and 2016 to track awareness, understanding and support for the project. The telephone survey contacted 1,102 Calgarians in 2016. The telephone survey found 67% of Calgarians support (strongly support and somewhat support) the pilot project (63% in 2014) and 68% support the Stephen Avenue bicycle pilot (59% in 2014). Cycle track pilot support is significantly higher (92%) among Calgarians that have cycled on pilot routes.

Education and Communications

Communication and education efforts from pilot engagement through implementation are summarized in the Centre City Cycle Track Network Summary in Attachment 1.

Since providing a project update report in December 2015, the project team has continued to communicate and share project updates with stakeholders and the public by:

- Publishing ten monthly newsletters
- Facilitating five advisory committee meetings
- Sharing project milestone events like the anniversary of the network opening and 1 million trips on The City of Calgary News Blog
- A Bicycle Ambassador program that had 32,000 interactions and the distribution of 85,000 “How-To” tips guides
- Visiting businesses along the cycle track in June and July to offer educational resources and project information.

Strategic Alignment

Providing on-street cycling infrastructure aligns with the Council-endorsed The Centre City Plan (2007), the Calgary Transportation Plan (2009), the Cycling Strategy (2011), Safer Mobility Plan (2013) and Complete Streets Policy (2014).

The Centre City cycle track network pilot aligns and helps achieve Council Priorities for the 2015-2018 business plan cycle. Specifically, the pilot project addresses:

- *A city that moves*
 - Action M4** Invest in active transportation infrastructure, including cycling and pedestrian networks as funding becomes available.
 - Designing and building Centre City projects that enhance pedestrian and cycling facilities.
- *A healthy and green city*
 - Action H7** Foster healthy lifestyles through a range of accessible and affordable recreational programs and opportunities that encourage active daily living.
 - Creating and implementing initiatives that are citizen centric and focus on community and environmental needs

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Social, Environmental, Economic (External)

The Centre City cycle track pilot has introduced dedicated on-street bicycle infrastructure in an urban environment that was previously uncomfortable for many people. Calgary's Centre City is now a truly multi-modal environment including:

- 300 km lanes of roadway
- Nine LRT stations
- The Plus 15 network
- Pathways along the Bow and Elbow rivers
- A network of 7.5 km of cycle tracks

Nearly all major cities across North America are building protected cycling infrastructure. The presence of an integrated multi-modal transportation system is an economic advantage and has improved Calgary's reputation in making it a more attractive city to live, work and visit:

- Internationally, Vogue magazine has mentioned how easy it is to visit local businesses and restaurants by bike (October 2016).
- Nationally, The Globe and Mail highlighted local businesses adapting to cycle tracks (June 2016) and The City of Edmonton approved a network of cycle tracks modeled after Calgary's approach (September 2016).
- Locally, cycling infrastructure was noted as an improvement for Calgary in the annual Calgary Foundation Vital Signs Report (August 2016).

The three corridors enhanced for people cycling help Calgarians and visitors access more of the Centre City by bicycle and extend the comfort of the river pathways closer to where people work, live or visit. Additionally:

- 77% of Calgarians who have cycled on cycle track streets report that their cycling experience is better.
- The 6.5 km pilot network was created by removing on-street parking or a travel lane. Two percent of downtown travel lanes (out of 300 KM) were used to create the cycle tracks. This has led to a balance of different transportation modes along these corridors:
 - 5 Street at the CPR underpass 15% (2,120) of daily on-street trips (14,167) are made by bicycle
 - 8 Avenue west of 3 Street S.W. 31% (1,300) of daily on-street trips (4,145) are made by bicycle.
- Separating people cycling, walking and driving has reduced sidewalk riding and improved the perception of safety for people cycling while maintaining the perception of safety for people driving and walking along cycle track routes.

The network has improved mobility and provided Calgarians with an affordable and healthy transportation option. Making the cycle tracks a permanent feature of our transportation network will continue to have many positive social, environmental and economic impacts and continue to improve Calgary as a place to live, work and visit.

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Financial Capacity

Current and Future Operating Budget:

Action Plan 2015-18 covers current operating needs. No additional funding is being requested with this report. If the pilot network is made permanent, Roads will include maintenance and operation costs in future Action Plan adjustments.

Current and Future Capital Budget:

On April 28, 2014 as part of the response to TT2014-0159, Council approved \$7.1 million of the 2012-2014 Cycling Strategy funds for the cycle track pilot. The pilot project has been delivered under budget at \$ 5.45 million. In December 2015 TT2015- 0850, a project cost of \$5.75 million was reported, this cost accounted for maintenance and adjustments during the entire pilot period. With the pilot project completed, there is a \$0.3 million unused in maintenance and adjustments.

The \$1.65 million remaining budget and additional funds in the City-Wide Active Modes program (Program 126-103) will be used to make adjustments and improvements.

Risk Assessment

The 18- month pilot project has provided The City the unique opportunity to study the risks identified in the network approval report (2014) through the comprehensive Evaluation Plan and continued project monitoring. The risks discussed below relate to post-pilot options.

Risk: Ability to achieve sustainability targets if the pilot is removed

Cycling downtown is at a historic high and city-wide bicycle commuting has doubled in the last five years. In one year, the cycle track network has contributed to moving The City closer to achieving the 2020 Cycling Strategy bicycle mode share target than the increase over the five previous years before the pilot (2010-2015). If removed, Administration is not able to provide alternative solution to meeting sustainability targets endorsed by Council.

Risk: Accommodation for people using cycle tracks

According to research done through the telephone survey, 25% of people cycling downtown started within the last two years. Removing the network would reduce mobility options for thousands of Calgarians and leave people cycling to take the lane on other corridors or use the sidewalk.

Risk: Impact of permanent network on parking and traffic operations downtown

The addition of the cycle track pilot network did change the design of the roadway along three corridors in Centre City. Depending on the context of the roadway either parking was consolidated onto one side of the road or a travel lane was removed to create the cycle tracks. Over the 18 month pilot people have adjusted to the new roadway designs, however some businesses along 8 Avenue S.W. have identified that the loss of parking and loading continues to be a concern between the block of 4 Street and 5 Street S.W. Administration has identified this as an issue to resolve in the short term, as identified on page 25 of Attachment 1.

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REASON(S) FOR RECOMMENDATION(S):

The Centre City cycle track network pilot project has generally met its objectives:

- More Calgarians are choosing to ride a bicycle downtown with over 1.2 million trips on the network, a tripling in daily weekday bike trips on cycle track routes and a 40% increase in trips into and out of the downtown.
- Change in demographics of people cycling downtown.
- Significant progress towards Calgary Transportation Plan targets to have balanced transportation options.
- Provided flexibility to make adjustments and compile a list of post-pilot improvements
- Efforts to minimize impact to other travel modes and businesses along the route will continue to be made to improve parking/loading, traffic operations and the cycling experience.
- Retained budget to make post-pilot improvements and upgrades.

ATTACHMENT(S)

1. Centre City Cycle Track Pilot Network Summary Report