

## EXECUTIVE SUMMARY

### Rainbow Crosswalks Pilot - Lessons Learned

#### What we did

- The City of Edmonton’s CITYlab, Transportation Planning and Transportation Operations collaborated on a pilot project to paint six crosswalks in rainbow colours at three different locations in the Old Strathcona area.
- The rainbow crosswalks were added in June 2015 to support the Old Strathcona Business Association and the Pride Festival.
- The pilot reimagined the existing public realm, brought additional awareness to Pride and provided an opportunity to monitor motorist behaviour at the crosswalks.
- Following the success of the pilot and the positive response from the general public, the City will be exploring a permanent rainbow crosswalk.

#### Project Results

- The overall public response was overwhelmingly positive.
- Over 3200 people completed a survey to provide feedback on the initiative. Common themes were:
  - making the crosswalks permanent
  - showed the City’s support for the festival, the parade and the LGBTQ community
  - costs/money/tax dollars
  - contribution to the City’s image
  - pedestrian and driver safety



- Overall, the rainbow crosswalks did not decrease pedestrian safety.
- Stopping and encroaching behaviour differed at locations with and without the rainbow crosswalks.
- The observed motorist behaviour was consistent with the survey findings where people felt the rainbow crosswalks made intersections safer and were not a distraction.

#### **Example from the feedback:**

*“The city should be constantly looking for ways to build diversity, creativity and community spirit, by incorporating similar low-cost art installations in a wide range of locations, throughout the year.”*

#### Lessons Learned

- Community interest and support plus cross departmental collaboration within the City created a foundation for the pilot’s success.
- The pilot had multiple positive outcomes: support for a festival and a community, animating of space, testing something new and contributing to the City’s reputation.



**FULL SUMMARY**  
**Rainbow Crosswalks Pilot – Lessons Learned**

**The Opportunity:**

CITYlab, Transportation Planning and Transportation Operations collaborated to paint six crosswalks in rainbow colours at three different intersections in the Old Strathcona neighbourhood. The rainbow crosswalks were added to support the Old Strathcona Business Association (OSBA) and the Pride Festival. The rainbow crosswalks were a pilot to reimagine the existing public realm, bring additional awareness to the Pride festival and monitor motorist behaviour at the crosswalks.

**What We Did:**

Three locations (two crossings at each intersection) along the Pride Route were identified:



**108 Street and Whyte Avenue**  
(east-west crossings)

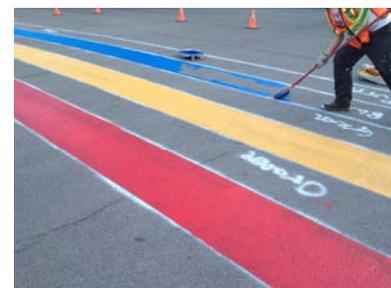


**106 Street and Whyte Avenue**  
(east-west crossings)



**104 Street and 84 Avenue**  
(north-south crossings)

The crosswalks were installed prior to the Pride Parade on June 6<sup>th</sup>. Transportation Operations crews pre-marked on the evening of May 31<sup>st</sup> and painted the crosswalks on the evening of June 1<sup>st</sup>. The crosswalks were painted with road marking paint to match the six colours of the Rainbow Pride flag. Transportation Planning coordinated the setup of Miovision cameras at intersections with and intersections without the rainbow crosswalks to collect data on motorist behaviour. CITYlab developed key messaging, created the public survey questions, videotaped and photographed the installation and responded to public and media inquiries. (Plus Communication staff were essential along the way!)



**Project Results:**

The rainbow crosswalk pilot provided an opportunity for the City to collaborate across departments and with the community. Each stakeholder was essential and contributed to the success of the pilot: request and interest from the OSBA and the Pride festival; CITYlab’s mandate to experiment and foster conversation around placemaking and urbanism; Transportation Planning’s role to enhance transportation safety and support communities and businesses; and Transportation Operations responsibility to manage and maintain road right-of-way.

### **Social Media**

Following the installation, the reaction was unexpected. The social media response, for posts relating to the rainbow crosswalk, was very positive. Communications staff reported that within the first week the City of Edmonton received 12, 378 Facebook Likes, Comments and Shares and 33, 755 Impressions through Twitter – the second highest number a City posting has ever received.

### **Edmonton Insight Community survey and the Open survey**

CITYlab developed a survey, with assistance from the Office of Public Engagement, to gather feedback on how people heard about the rainbow crosswalks, interacted with them (i.e. as a pedestrian, motorist)



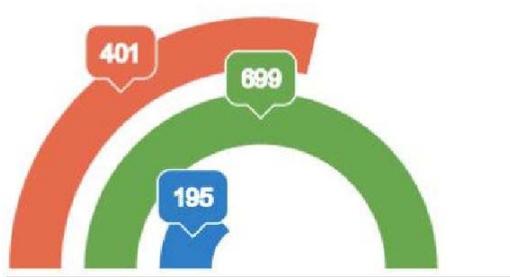
and their general thoughts on the initiative. Two identical surveys were created: one provided to members of the [Edmonton Insight Community](#) and an Open survey link available to the general public through the CITYlab webpage, the City of Edmonton’s survey page ([edmonton.ca/surveys](http://edmonton.ca/surveys)), shared via Twitter (@CityofEdmotnon and @PlanEdmonton) and the City’s Facebook page. There were 1295 respondents through the *Edmonton Insight Community* and 1974 respondents through the open survey. Listed below are common themes that emerged from both surveys:

- making the crosswalks permanent (lots in favour, some opposed, and some who liked the crosswalks but think they should be temporary or only repeated annually);
- the rainbow crosswalks showed the City’s support for the festival, the parade and the LGBTQ community;
- painting other crosswalks in other locations (rainbows or) for other events;
- costs/money/tax dollars (some concerns and questions about costs to install given other priorities as well as some saying costs/money could have been saved by making the crosswalks permanent in the first place);
- the addition of colour, vibrancy, creativity to the street is seen as a positive
- contribution to the City’s image (most suggested it reflected positively on the City);
- pedestrian and motorist safety (some suggesting it increases safety and some suggesting it decreases safety).



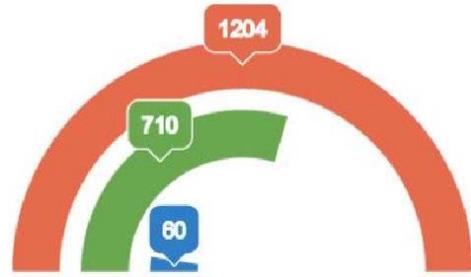
The graphs and chart below provide a snapshot of the data from the *Edmonton Insight Community survey and the Open survey*:

Do you recall seeing in person or hearing about crosswalks painted in rainbow colours...



**Saw in Person**  
**Heard/ Read About**  
**Haven't Heard/ Saw/ Don't Know**

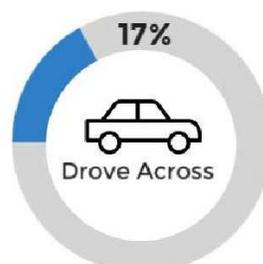
*Insight Community Survey*  
(n=1295)



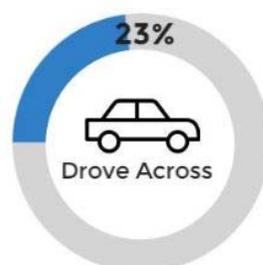
**Saw in Person**  
**Heard/ Read About**  
**Haven't Heard/ Saw/ Don't Know**

*Open Survey*  
(n=1974)

Did you...(only those who saw in person)



*Insight Community Survey*

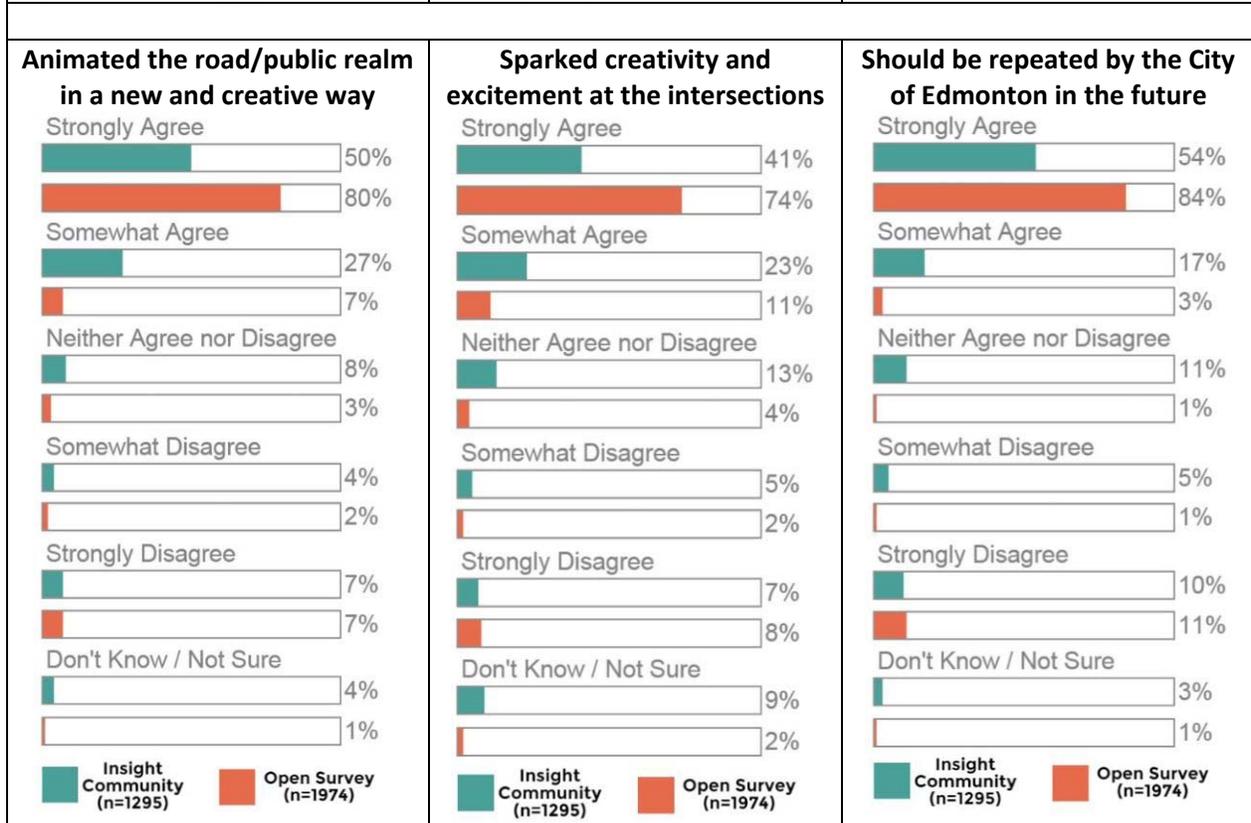
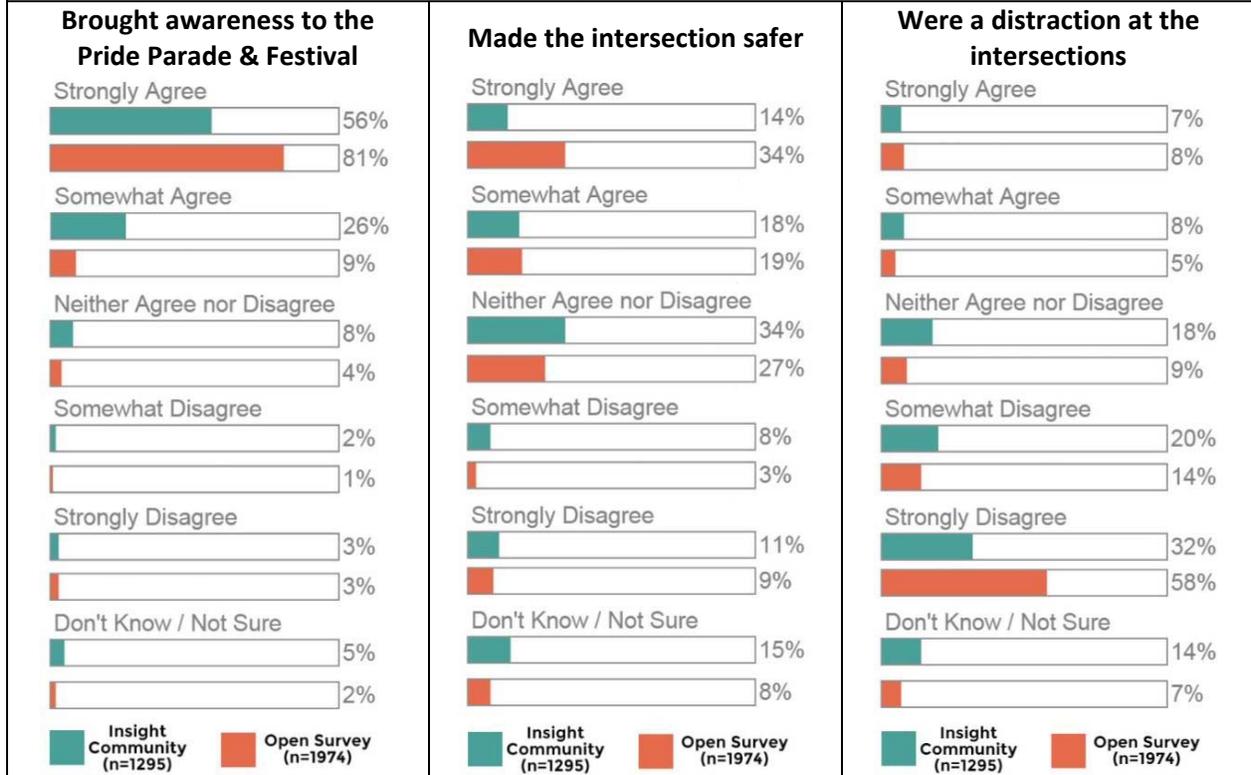


*Open Survey*

Example from the feedback

*"Okay as a promotion of Pride Week, but not as a regular standard."*

Please rate your level of agreement/disagreement with the following statements:  
*The rainbow painted crosswalks...*



### **Traffic Monitoring**

The rainbow crosswalks were also an opportunity to observe motorist behaviour. The painted crossings were monitored to understand if and how they may have influenced motorist behaviour related to yielding to pedestrians and stopping without encroaching into crosswalks (where pedestrians have right-of-way and should be yielded to).

Similar to a zebra pedestrian crosswalk, the use of solid (coloured) markings as additional longitudinal depth (i.e. length of the coloured lines) may make the crossing more visible to drivers than the standard crosswalk. Without prior examples in Edmonton, the crosswalks provided an opportunity to monitor and document any findings from an operation and safety perspective. As our city grows and becomes busier, innovative ways to enhance transportation safety are important to explore. The *Complete Streets Guidelines*, approved by City Council in 2013, provides direction to incorporate innovation through flexible design to improve safety.

### **Methodology**

- Eight *Miovision* cameras were set up at locations with rainbow crosswalks and locations without to observe what differences, if any, could be observed regarding motorist behaviour:
  - **With rainbow crosswalks:**
    - 106 St (one camera for northbound traffic and one camera for southbound traffic)
    - 108 St (one camera for northbound traffic and one camera for southbound traffic)
  - **Without**
    - 105 St (one camera for northbound traffic and one camera for southbound traffic)
    - 107 St (one camera for northbound traffic and one camera for southbound traffic)
- Each northbound and southbound approach at locations with and without the rainbow crosswalks are stop sign controlled. Motorists must yield to pedestrians and stop to yield to motorists travelling east-west along Whyte Avenue before turning or crossing Whyte Avenue.
- Peak hour traffic (6-9am and 3-6pm) was reviewed from Monday, June 8<sup>th</sup> for each camera at each of the intersections listed above (approximately 48 hours of video data).
- Motorist yielding behaviour and encroachment were observed for each intersection.
- Expected behaviour when approaching the intersection is twofold:
  - 1) Motorist stops vehicle prior to the crosswalk to yield the right-of-way to pedestrians.
  - 2) Motorist may then encroach into the crosswalk, following the initial stop to yield to pedestrians, in order to identify gaps in traffic prior to proceeding through intersection. This may occur due to possible sightline issues from by parked cars, landscaping, etc. which may limit ability of motorists to see gaps in traffic during the initial stop.
- How a motorist approaches the intersection contributes to the safety and perception of safety for pedestrians. Four categories of motorist stopping behavior were observed and recorded:

**Stopping and encroaching behaviour observed**

Motorists stops before the crosswalk



Motorist stops with vehicle partially encroaching into the crosswalk; pedestrian travel path along crosswalk not impacted (i.e., path between curb ramps is not impacted)



Motorist stops with vehicle completely encroaching into the crosswalk; pedestrian travel path requires significant deviation including possible crossing behind the encroaching motorist, limiting visibility of the crossing pedestrian



Motorist does not stop and proceeds directly through the intersection without yielding to pedestrians or other vehicles that have right-of-way



**Examples from the feedback:**

*"Not worth the energy it took or public debate. Move on to more substantive issues."*

"I think that they're fun and might generate discussion in families, which is a good thing!"

### Observations

- Overall, the observed motorist behavior indicates the rainbow crosswalks did not decrease pedestrian safety and had a positive influence over motorist behaviour.
- The observed motorist behaviour is consistent with the survey findings where people felt the rainbow crosswalks made intersections safer and the crosswalks were not a distraction.
- From the data observed, presented in the chart below, motorist stopping and encroaching behaviour differed at the intersections with and without the rainbow crosswalks.
- At locations without the rainbow crosswalks, vehicles were approximately 50% more likely to roll through without stopping and yielding at each intersection (See below chart C5, C6, C7, C8).
- At intersections with the rainbow crosswalks, vehicle behaviour was more varied. For example, southbound on 106 Street (C1), 38% of vehicles stopped before the crosswalk, while northbound on 106 Street (C2), 27% vehicles stopped before the crosswalk. However, 56% of vehicles rolled through without yielding or stopping northbound on 108 Street (C4).
- While the rainbow crosswalks had some influence on motorist behaviour there are other factors that affect stopping, yielding and crossing encroachment.
- Motorist stopping/yielding behavior and crosswalk encroachment are also influenced by the physical characteristics of each intersection. For example, the width of roadway, traffic controls, and sightlines (i.e. visibility due to buildings, building setbacks, parked cars, trees, etc.).
- Future study could review the influence of the physical characteristics compared with the enhancements made. Additionally, while approximately 48 hours of data was reviewed a longer monitoring period would allow for further analysis.
- Alternatively, baseline data from the intersections without the rainbow crosswalks prior to their installations could have provided different comparisons for more analysis.

### Examples from the feedback:

*“Not only do these projects add a place-making element to a local community and enhance the visibility of a pedestrian focused realm, but also adds to the animation of a city’s urban life and significance to passersby and visitors from out of town. The crosswalk is not just a symbol of pride for the event or LGBTQ, but for celebrating a space dedicated for pedestrians and cared for by the city.”*

*“I feel that adding visibility to crosswalks is something that should be considered to a greater extent for safety personally I know I’ve missed pedestrians trying to cross roads because I wasn’t aware they were at a crosswalk.”*

### Stopping and Encroaching Behaviour

Motorist Activity Observed	Stops before crosswalk	Stops partially blocking crosswalk	Stops fully blocking crosswalk	Does not stop	TOTAL	Locations Observed	
<b>RAINBOW CROSSWALK</b>							
<b>E-W Crossing of 106th Street (C1)</b>							
AM Total	17	31	29	20	97		
PM Total	101	25	49	37	212		
ALL Total	118	56	78	57	309		
<b>Summary</b>	<b>38%</b>	<b>18%</b>	<b>25%</b>	<b>18%</b>	<b>100%</b>		
<b>RAINBOW CROSSWALK</b>							
<b>E-W Crossing of 106th Street (C2)</b>							
AM Total	48	60	60	58	226		
PM Total	58	36	29	51	174		
ALL Total	106	96	89	109	400		
<b>Summary</b>	<b>27%</b>	<b>24%</b>	<b>22%</b>	<b>27%</b>	<b>100%</b>		
<b>RAINBOW CROSSWALK</b>							
<b>E-W Crossing of 108th Street (C3)</b>							
AM Total	10	15	27	36	88		
PM Total	39	29	60	55	183		
ALL Total	49	44	87	91	271		
<b>Summary</b>	<b>18%</b>	<b>16%</b>	<b>32%</b>	<b>34%</b>	<b>100%</b>		
<b>RAINBOW CROSSWALK</b>							
<b>E-W Crossing of 108th Street (C4)</b>							
AM Total	2	3	8	24	37		
PM Total	5	16	17	40	78		
ALL Total	7	19	25	64	115		
<b>Summary</b>	<b>6%</b>	<b>17%</b>	<b>22%</b>	<b>56%</b>	<b>100%</b>		
<b>CONTROL</b>							
<b>E-W Crossing of 105th Street (C5)</b>							
AM Total	6	6	20	43	75		
PM Total	13	14	36	97	160		
ALL Total	19	20	56	140	235		
<b>Summary</b>	<b>8%</b>	<b>9%</b>	<b>24%</b>	<b>60%</b>	<b>100%</b>		
<b>CONTROL</b>							
<b>E-W Crossing of 105th Street (C6)</b>							
AM Total	18	14	7	61	100		
PM Total	26	31	37	91	185		
ALL Total	44	45	44	152	285		
<b>Summary</b>	<b>15%</b>	<b>16%</b>	<b>15%</b>	<b>53%</b>	<b>100%</b>		
<b>CONTROL</b>							
<b>E-W Crossing of 107th Street (C7)</b>							
AM Total	8	13	23	40	84		
PM Total	18	10	30	58	116		
ALL Total	26	23	53	98	200		
<b>Summary</b>	<b>13%</b>	<b>12%</b>	<b>27%</b>	<b>49%</b>	<b>100%</b>		
<b>CONTROL</b>							
<b>E-W Crossing of 107th Street (C8)</b>							
AM Total	N/A	N/A	N/A	N/A	N/A		
PM Total	9	12	8	29	58		
ALL Total	9	12	8	29	58		
<b>Summary</b>	<b>16%</b>	<b>21%</b>	<b>14%</b>	<b>50%</b>	<b>100%</b>		

#### Examples from the feedback:

*"I think they make a positive statement about the City's inclusion of LGBTQ Edmontonians! Given that making the city a welcoming and inclusive city is one of our goals in the Ways We Live, the rainbow crosswalks are a tangible reminder of inclusivity for all."*

*"Citizens and community leagues have been asking permission to do this type of things for decades, and are faced with red tape and 'no' as the default answer. It is good to see the City beginning this, we are decades behind in placemaking activities."*

#### Lessons Learned:

- An initiative the community was interested in and supportive of created a foundation for success.
- Cross departmental collaboration within the City of Edmonton, bringing together different units with different roles and expertise, contributed to the pilot's implementation and positive reception.
- A small example of placemaking served multiple purposes: support for a festival, community, addition of colour to an urban area, testing something and the contribution to the City's reputation.
- Multiple methods to monitor and evaluate the pilot, including people's perceptions gathered through surveys as well as traffic data, was essential.
- Overall, the rainbow crosswalks did not decrease pedestrian safety and may have contributed positively to improve motorist stopping/yielding and crosswalk encroachment behaviour.
- The observed motorist behaviour is consistent with the survey findings where people felt the rainbow crosswalks made intersections safer and the crosswalks were not a distraction.
- Stopping and encroaching behaviour differed at the intersections with and without the rainbow crosswalks.
- While the rainbow crosswalks had some influence on motorist behaviour, physical characteristics also influence stopping/yielding/encroaching behaviour and require additional study.
- The City is not alone when experimenting: Edmonton borrowed from the examples set by other cities (i.e. Vancouver, Toronto that had initiated rainbow crosswalks previously); but Edmonton in turn became an example - Victoria, BC, Brockville ON and Ottawa, ON have all initiated crosswalks and referenced Edmonton as a model.
- Following the success of the pilot and the positive response from the general public, the City will be exploring a permanent rainbow crosswalk.
- Possible locations for a permanent crosswalk, with input from the public, will be reviewed in the fall/winter of 2015/2016.

#### CITYlab and the Rainbow crosswalks in the media:

[26 reasons why Edmonton might be the next great city](#), *The Loop*, July 5, 2015  
[Rainbow crosswalk a sign of changing times](#), *Times Colonist (Victoria)*, June 23, 2015  
[Permanent Rainbow crosswalks seen as support for LGBTQ people](#), *CBC*, June 8, 2015  
[Ahead of Edmonton's Pride Festival, city paints crosswalks along parade route](#), *CTV*, June 2, 2015  
[Rainbow-coloured crosswalks coming to Edmonton's Old Strathcona](#), *Metro*, June 1, 2015  
[Rainbow crosswalks hit the street](#), *Edmonton Journal*, June 1, 2015 [front page photo]