

Armstrong Street Consultation Report

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Summary of Results

Overall this consultation reached 173 participants directly from targeted distribution. The following table summarizes the public feedback gathered. More detailed explanation as well as the text analysis is included in the Results section.

Questions	General Result
a. Would you like to see cycling route signage along Armstrong?	 *
Do you have any additional comments about cycling route signage?	See Results
b. What painted cycling indicators would you like to see? Sharrowes? Bike boxes at intersections? Etc?	Bike Boxes
Four-Way Stop Armstrong/Hinchey	 
Four-Way Stop Armstrong/McCormick	 
Four-Way Stop Armstrong/Merton	 
Four-Way Stop Armstrong/Hilda	 
Four-Way Stop Armstrong/Bayview	 
c. Why would you like to see a four way stop at these intersections? Would you like to see bike parking infrastructure along Armstrong?	See Results
a. Would you like to see Armstrong made into a one-way street with two-way bike lanes?	
Would you like to see Armstrong made into a shared street (ex: allowing cars, but with priority for pedestrians and cyclists on the whole street)?	
Contraflow Bike Lanes McCormick	 
Contraflow Bike Lanes Carruthers	 *
Contraflow Bike Lanes Stirling	 
Contraflow Bike Lanes Pinhey	 
Contraflow Bike Lanes Merton	 *

Contraflow Bike Lanes Garland



Contraflow Bike Lanes Hilda



d. Would you like to see Carruthers closed off from Wellington W (but retain pedestrian and bike access)?



e. Would you like to see all the streets around McCormick Park made into shared streets with pedestrian and cycling priority (both McCormick and Carruthers)?



a. Would you encourage appropriate development on the existing parking lots by allowing increased height (up to a max of 5 storeys or 20 m) for residential with –c commercial at grade, provided it is stepped back if it is higher than 3 storeys or 11 m?



b. Would you like to allow small “cafe seating” (2 or 3 small tables outside) with the –c commercial?



c. On Grant St, would you like to see development of the parking lots?



c. What would you like to see instead of the parking lots?

Mixed-
Use
Buildings

*Indicates statistical significance of $\alpha < 0.05$.

Where Was This Study Publicized?

Online

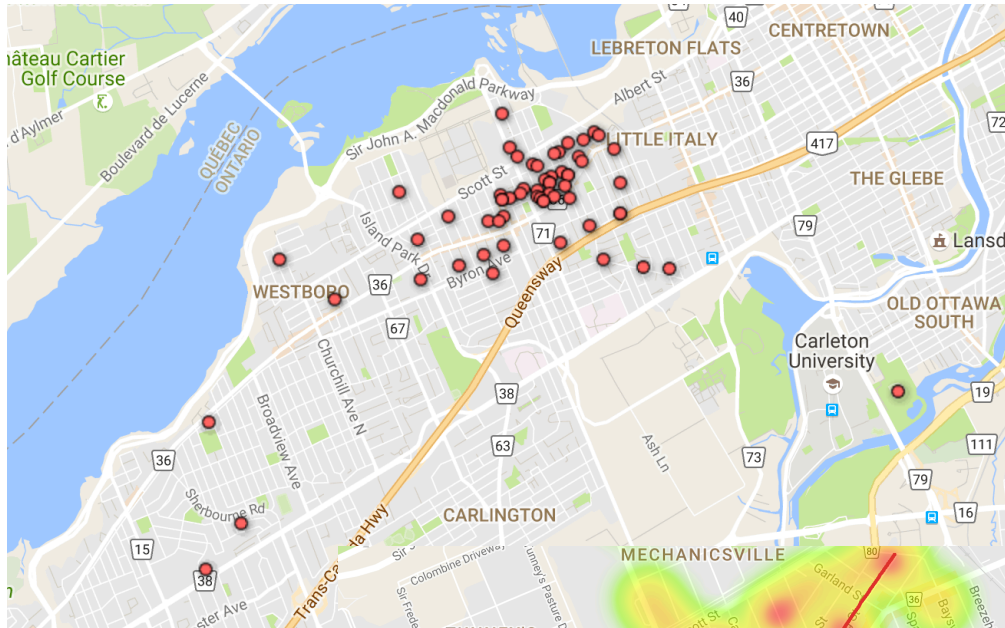
Councillor Jeff Leiper published the study through his newsletter, twitter, facebook, and Instagram. It was also published on www.milieu.io.

Offline

This study was published in Councilor Leiper’s physical newsletter and during two walking tours of the area.

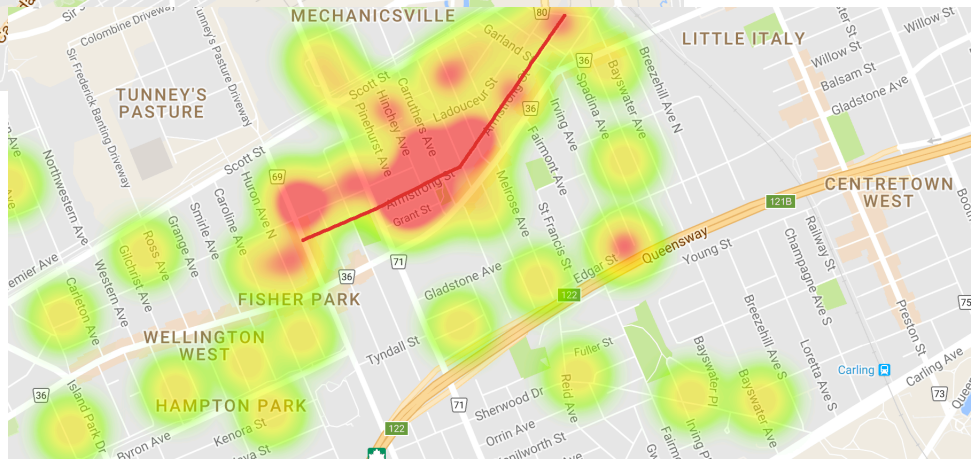
Who Did This Study Reach

Method	Number	Percentage %
Paper Survey	10	5.8
Online Survey	82	47.4
Milieu.io	69	39.9
Walk Arounds	12	6.9



Map of Survey Responses. This map shows the extent of people who responded online to the Armstrong survey in the Ottawa area.

Heat Map of Responses. This map shows the concentration of responses around Armstrong street indicated by a red line.



Types of Analysis

Lickert Scale

Lickert scale data involves asking residents on a scale of one to five how strongly they feel about a features. One being strongly disagree and five being strongly agree. Sentiment was calculated from Lickert data as a weighted function of the median and the skew of the distribution. Controversy was calculated from Lickert data as a weighted function of the standard deviation and the kurtosis.

Statistical testing was performed on the responses of each question to see if any trends in opinion were statistically significant ($p > 0.05\alpha$). For Skew a two-tailed D'Agostino skewness test was used, and if the results were within 0.025 of α , the statistic was re-tested with a one-tailed test accounting for directionality. For Kurtosis a two-tailed Anscombe-Glynn kurtosis test was used, and the same protocol applied for one-tailed re-testing as with Skewness.

Text comments were analyzed using IBM Bluemix's Alchemy API. It is a cognitive API that is modelled to read and interpret text in a similar manner to the human mind. The Alchemy API was used to return targeted sentiment based on major topics of discussion as well as to analyze emotional content of comments.

Sentiment and Controversy Legend

This table outlines the ranges and meaning for sentiment and controversy values.

Sentiment Range	0 – 25%	25 – 50%	50 – 75%	75 – 100%
Interpretation	Strong Disapproval	Disapproval	Approval	Strong Approval
Controversy Range	0 – 25%	25 – 50%	-0 – 75%	75 – 100%
Interpretation	Little Controversy	Slight Controversy	Moderate Controversy	Extreme Controversy



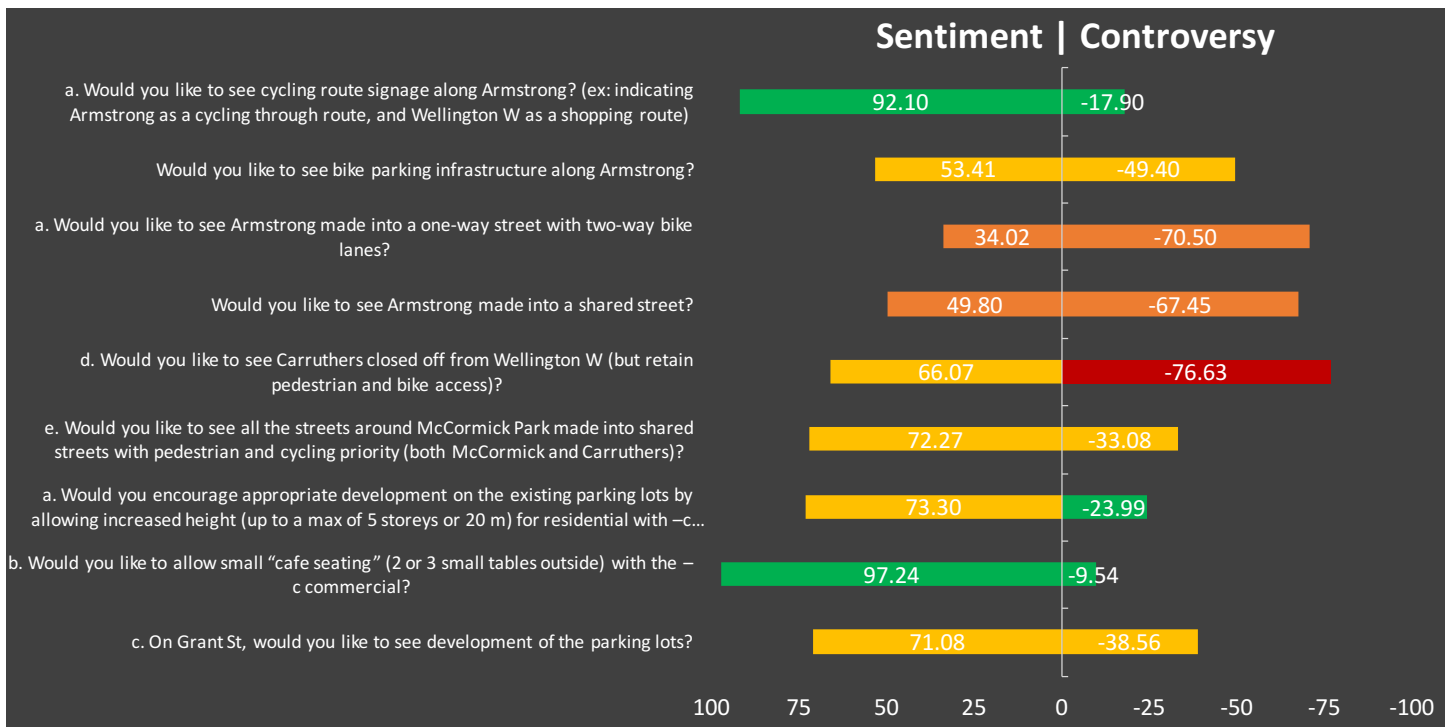
Four Way Stop Analysis – General sentiment towards any four-way stops on Armstrong were generally neutral with varying levels of controversy. The most well received intersections were Armstrong/Bayview (66.71%), and Armstrong/Merton (60.95%). The least well received intersections were Armstrong/Hilda (49.65%), and Armstrong/Hinchey (50.70%). The most controversial intersection was Armstrong/McCormick (61.64%) followed by Armstrong/Bayview (58.73%).



Contraflow Bike Lane Analysis – General sentiment ranged from close to neutral to relatively in favour for certain connector streets. The most well received streets for contraflow bike lanes were Carruthers (69.85%), and Merton (69.80%). The least well received streets for contraflow bike lanes were McCormick (51.93%), and Hilda (53.38%). The most controversial streets for contraflow bike lanes were McCormick (42.85%) and Stirling (44.13%).

Transportation Infrastructure

Positive recommendations are based off a combination of a high public sentiment score and a low public controversy score. Based on these criteria the top recommendations were: allowing small café seating with small c-zoning, adding cycling route signage along Armstrong, developing the existing parking lots according to the outlined specifications, and turning the streets around McCormick Park into shared streets. The least popular suggestions were: making Armstrong into a one-way street with two-way bike lanes, making Armstrong into a shared street, and adding bike parking infrastructure along Armstrong. The most controversial recommendation was closing Carruthers off from Wellington with only pedestrian and bike access.

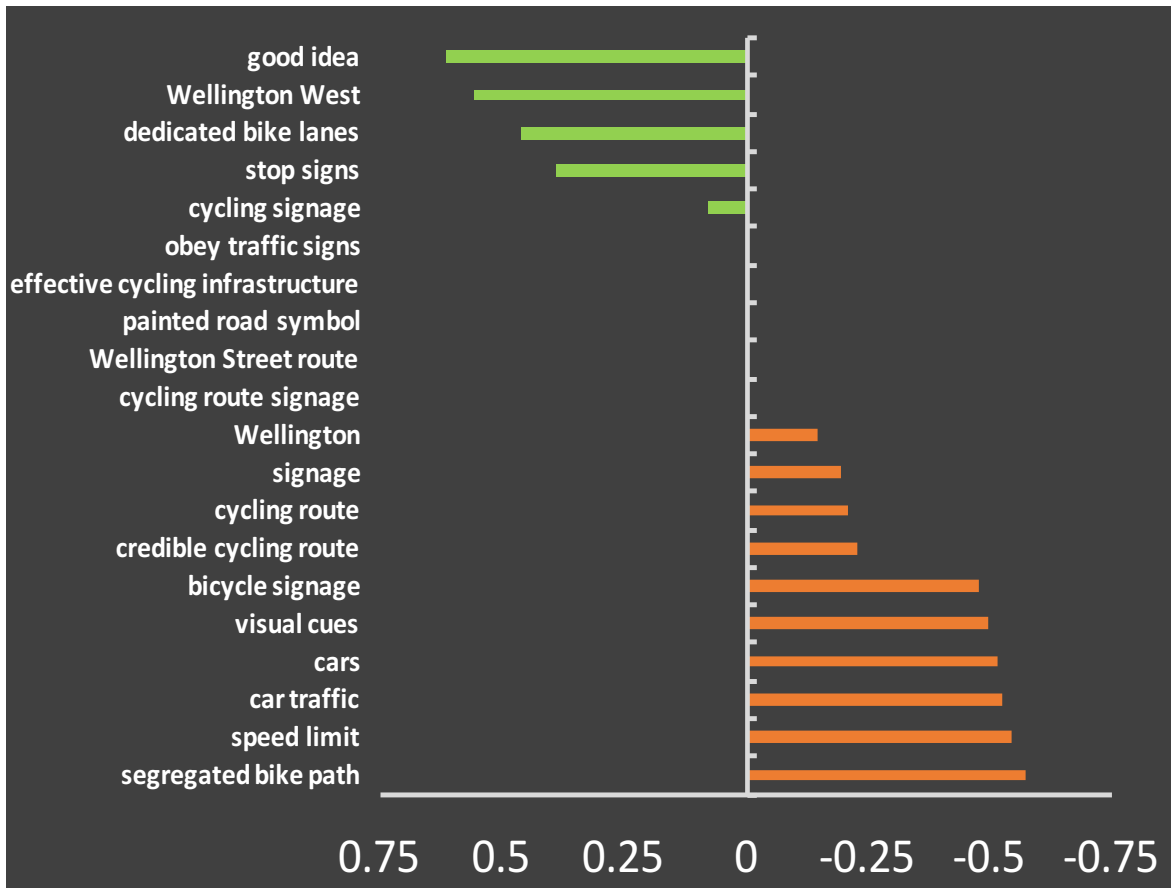
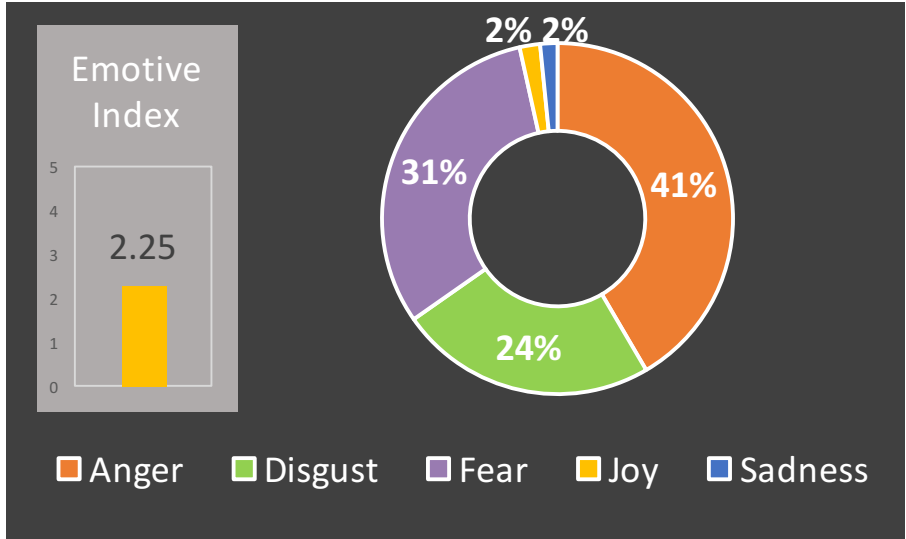


Cycling Infrastructure – Text Analysis

Overview: The general trends indicated that citizens are supportive of cycling route signage along Armstrong street because people use it to commute, or to navigate along the more traffic laden Wellington West. It was expressed that the current signage on Wellington is confusing and dangerous. There was disagreement about the efficacy of different route signage, some saying signage is just clutter and others saying is not enough - that only segregated bike lanes are effective. There were four citizens that explicitly stated that cars need to be slower on Armstrong either by lowering the speed limit or by putting in speed bumps.

Emotive Index -Text analysis of cycling infrastructure comments revealed a relatively high emotive index (2.25) with anger (41%), fear (31%), and disgust (24%) as the prevailing emotions from commenters.

Targeted Sentiment identified certain items that were associated with strong sentiments and have been quoted for clarity:



Quotes – Cycling Infrastructure

Wellington West - Positive

“In a way Armstrong is a shopping route for that part of Wellington West, Many cyclist are uncomfortable in traffic, just cycle along Armstrong, take a side street to Wellington West, and walk to a very short distance to the store. however the signage is great, generally speaking I do not use shopping routes as through routes”

Dedicated Bike Lanes - Positive

“Signage is a good start, but painted streets or separate, dedicated bike lanes are even better.”

Stop Signs - Positive

“It would be great if there were no stop signs for cyclists on this route.”

Segregated Bike Lanes – Negative

“Signage is useless, segregated bike path is only real option”

Speed - Negative

“Having a street sign, not just a painted road symbol, would help after winter to remind people that Armstrong is a designated bike street. If possible we should also reduce the speed limit to 40KM.”

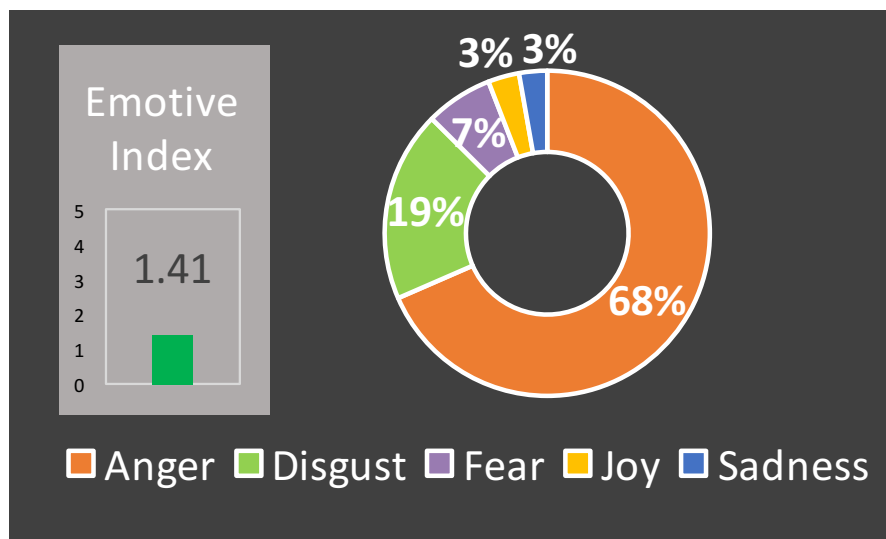
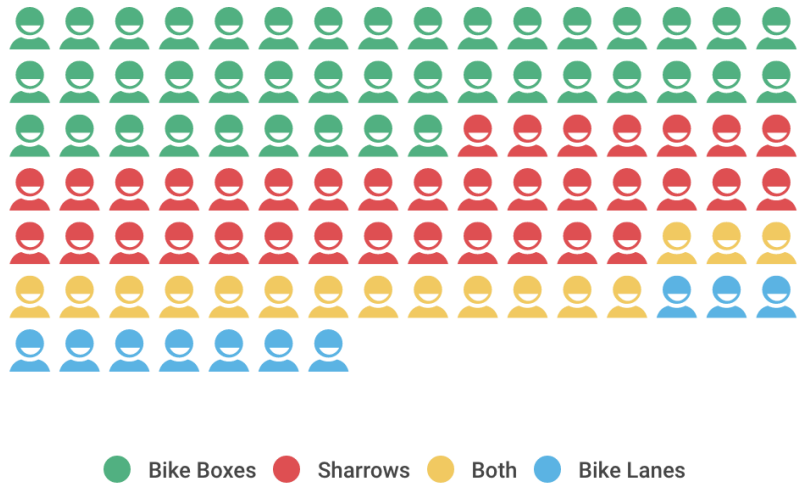
Cars – Negative

“Great Idea! I live just a block from Armstong and use it all the time as a cycling route to avoid Wellington which has buses and parked cars and is very narrow.”

“If Armstrong is meant to be a credible cycling route then any signage must ensure that 311 and By-law can ticket/tow cars that are parked where they shouldn't be. Otherwise cars will park all over whatever is built and that's the same as not having any infrastructure in the first place (weaving into car traffic with kids is not an option).”

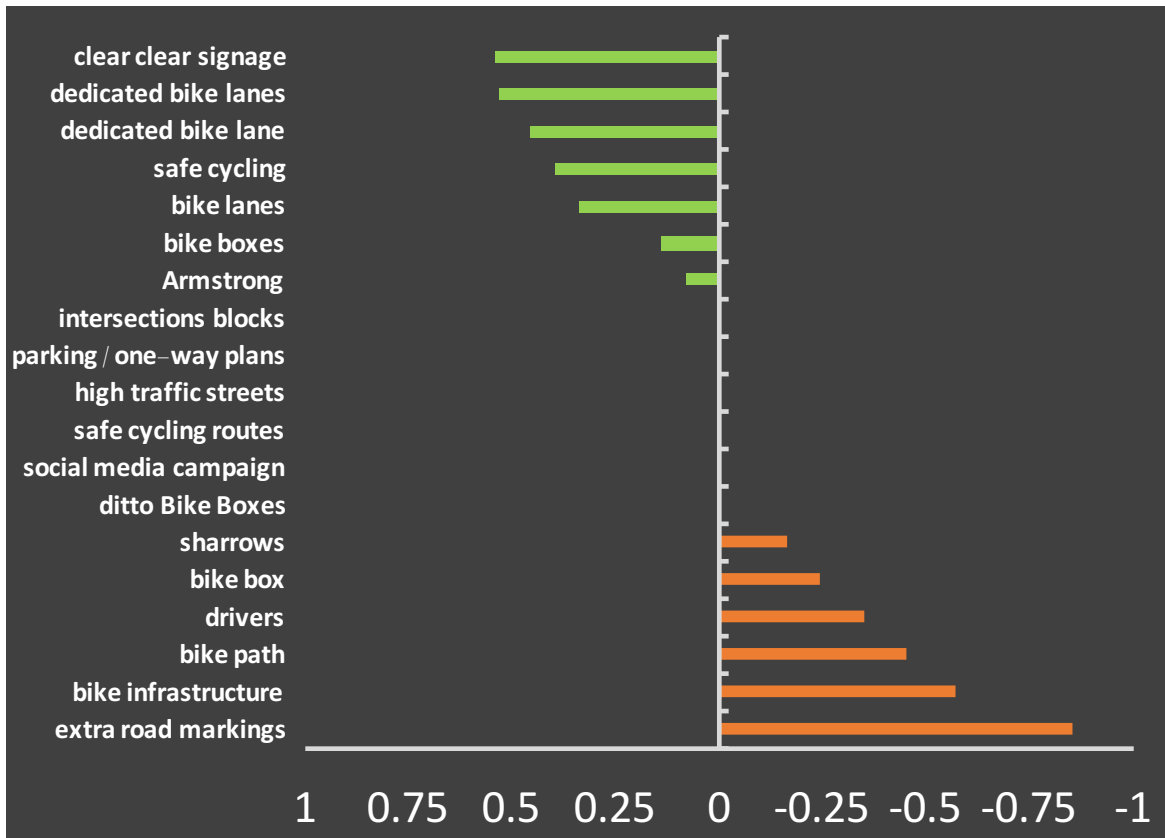
Cycling Indicators

Overview: Generally, people indicated a slight preference for Bike Boxes (41) over Sharrows (36). However, those that expressed an interest in Bike Boxes often also stated that Sharrows were not adequate cycling structure. One person cited the position of Citizens for Safe Cycling in saying that Sharrows did not really improve safety or accessibility. A minority of people (10) indicated a strong preference for bike lanes and often expressed that drivers ignore bike boxes and sharrows. (2) Drivers expressed they'd prefer neither and said they were ugly and distracting.



Emotive Index - Text analysis of cycling indicator responses revealed a low emotive index (1.41) with anger (68%), fear (19%), and disgust (7%) as the prevailing emotions from commenters.

Targeted Sentiment identified certain keywords that were associated with strong sentiments and have been quoted for clarity:



Quotes – Cycling Indicators

Bike Lane - Positive

“Both are a bit confusing. As a motorist, do I always have to stop behind the green box? That can affect your sight line for intersecting traffic. The sharrows are clearer, but if you are creeping along behind a cyclist, other drivers may get aggressive, which is uncomfortable. I so much prefer bike lanes.”

Sharrows – Negative

“Bike boxes, I believe things like sharrows and "share the road" signage have proven to be ineffective in promoting road sharing.”

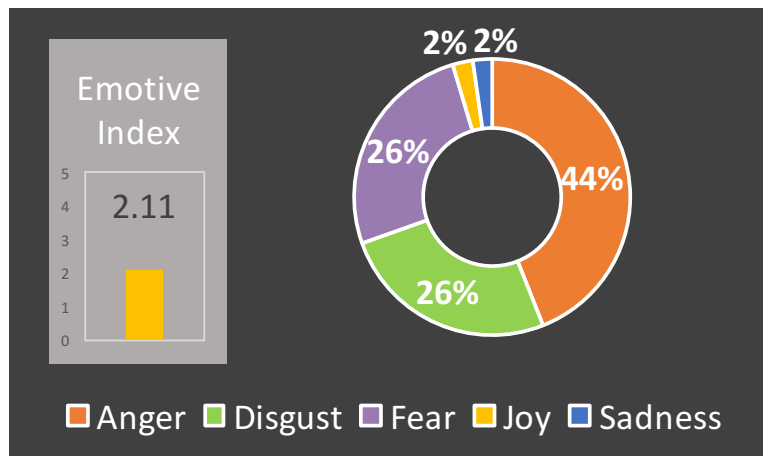
Drivers – Negative

“Sharrows are not bike infrastructure and are ignored by drivers and cyclists alike. Bike boxes are better, but still often ignored and need enforcement. Neither are helpful when bike lanes just end without transition.”

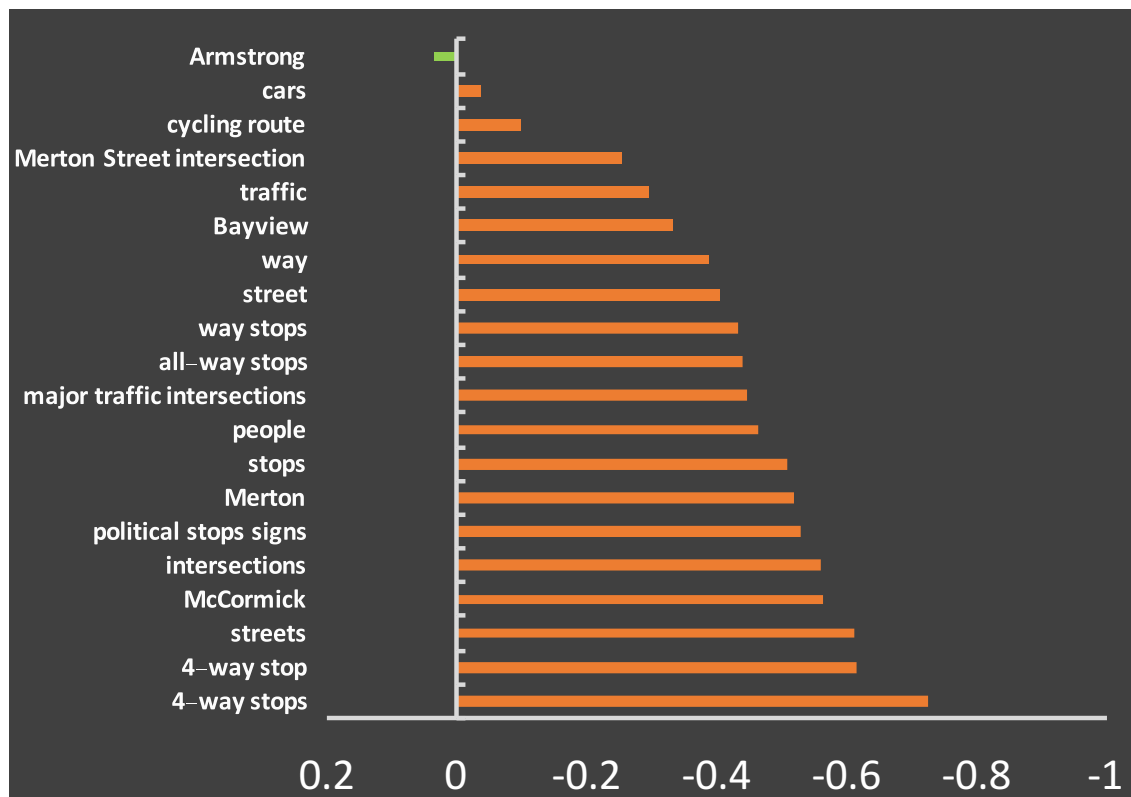
Four Way Stops

Overview: Generally, people were in favor of slowing traffic along Armstrong. Opinions were distributed by commuter groups. Those who identified as cyclists generally preferred not to have stop signs along Armstrong if it was going to be a cycling route. However, some cyclists expressed a desire for stops at heavy traffic intersections such as Bayview where turning was difficult. Many motorists expressed concerns over visibility at certain intersections like Merton or McCormick, especially in the winter, and were in favor of four-way stops here. Both groups were concerned at motorists and cyclists ignoring stop signs and expressed concern over the current number of almost-accidents they were witnessing.

Emotive Index - Text analysis of four way stops revealed a moderate emotive index (2.11) with anger (44%), fear (26%), and disgust (26%) as the prevailing emotions from commenters.



Targeted Sentiment identified certain items were associated with strong sentiments have been quoted for clarity:



Four Way Stops - Quotes

Four-Way Stops – Negative

“Safety... Drivers tend to speed between Pinhey to Garland because there are no stops. I've witnessed many close calls at this intersection because many people travelling on Merton think that this is a 4-way stop at the intersection.”

McCormick – Negative

“Poor visibility at Bayview, especially in winter; poor visibility at McCormick; drivers going north on Merton think drivers on Armstrong will stop”

Streets – Negative

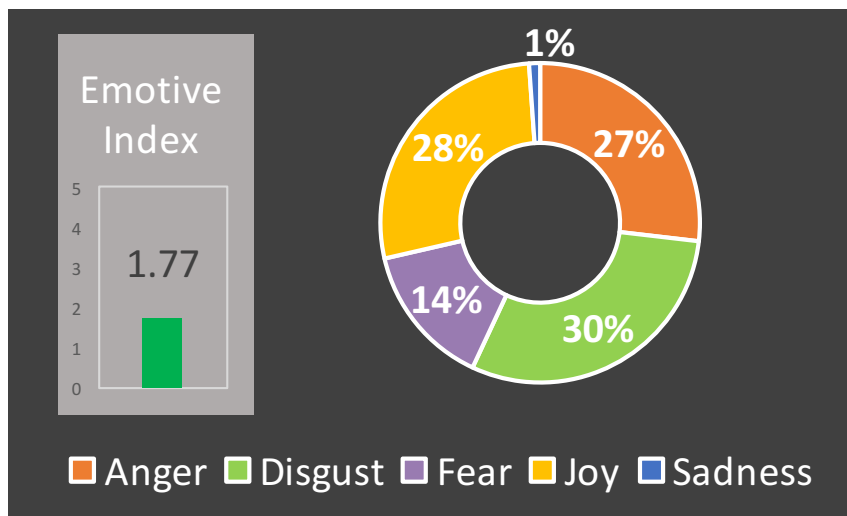
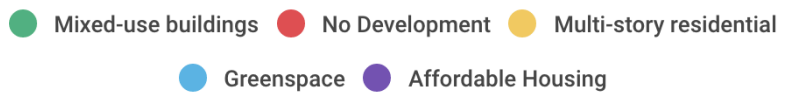
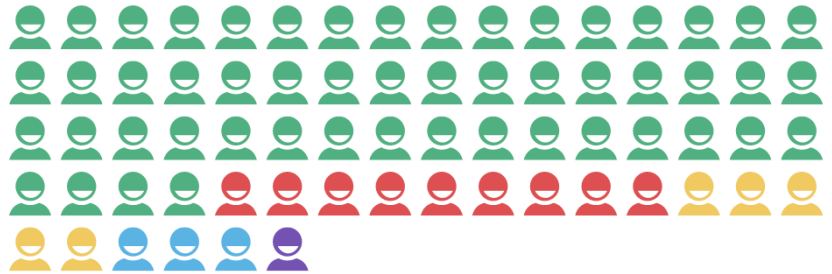
“I have seen so many accidents almost happen at Merton and McCormick. People are not stopping to take the time to look and as a driver it is really hard to see and maneuver with the daytime parking on both of those streets. Remove the parking along this route please. or at least minimize it. People park toe to tail from Wellington to Armstrong and bikes, cars and pedestrians are at risk”

Traffic – Negative

“Visibility is poor to the right/left if you are on Hinchey and trying to turn left onto Armstrong. The same is true if you are on McCormick trying to turn left onto Armstrong, but I didn't vote for this given how close it is to Hinchey. I think a 4 ways stop at Hinchey can do a lot to fix this problem. At McCormick, maybe put up a large mirror so that we can see oncoming traffic? I think the rest should stay as they are because we don't want too many 4-way stops on Armstrong, but be want enough.”

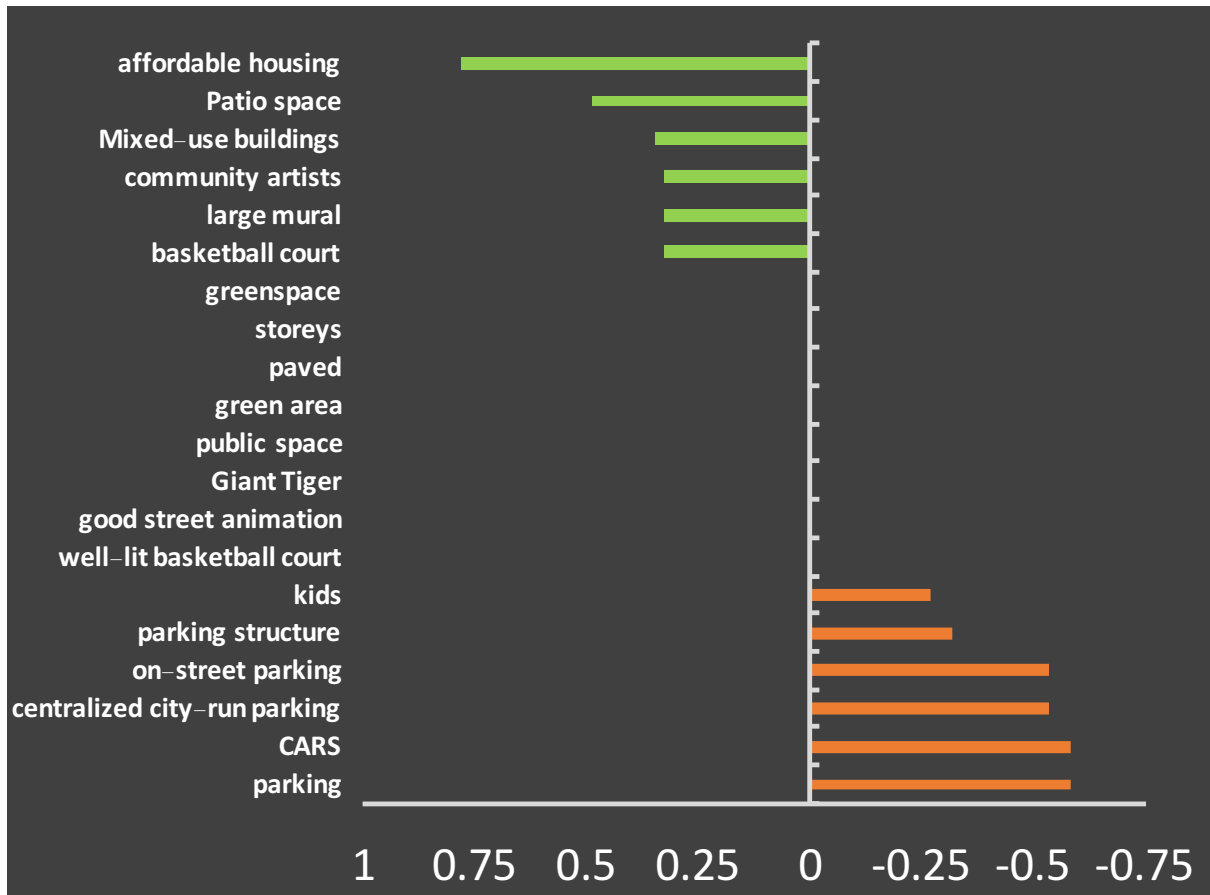
Parking Lot Development

Overview: There was an overwhelming majority of people in favor of seeing the parking lots developed into mixed-use buildings. The second most prominent sentiment was to leave the buildings as parking lots. Concern was expressed about the lack of existing parking.



Emotive Index - Text analysis of parking lot development revealed a low emotive index (1.77) with disgust (30%), Joy (28%), and anger (27%) as the prevailing emotions from commenters.

Targeted Sentiment - analysis identified certain items that were associated with strong opinion and have been quoted for clarity:



Parking – Quotes

Parking – Negative

“There is not enough parking already”

“I think on-street parking should be eliminated in favour of centralized city-run parking lots.”