Evaluation Plan: Performance Measures & Targets

Theme	No.	Performance measures for each cycle track route	Unit of measurement	Time of benchmark measurement	Target by Fall 2016	Measurement method
		Primary Performance Measures				
Satisfaction[2]	1	Percent satisfied with Pilot Cycle Track	percentage	Fall 2014	% satisfaction by mode (walking, cycling, driving) same or higher	Telephone survey and interviews
Safety[3]	2	Collision Rate	number of crashes, crashes per 100,000 km travelled on the route	Fall 2014	10% reduction	Calgary Police Service database
Walking, cycling and auto activities	3	Bicycle volumes[4] (*16hr, weekdays*)	number of bicycles	2013 & Fall 2014	double, triple or quadruple	Automated counter and video camera
	4	Peak period travel time- automobile	minutes and seconds	Fall 2014	increase in peak period travel time ≤20%	GPS and stopwatch trials
	5	Unlawful bicycle riding: sidewalk riding if >14yrs of age, wrong-way riding on the roadway	number of bicycles riding unlawfully; percentage riding unlawfully	Fall 2014	unlawful riding ≤2%	Human observation and video camera
		Secondary Performance Measures				
Economic Vitality[5]	6	Intercept survey- adjacent patrons	# visits per month; $ spent per month	Fall 2014	# visits and $ spent/month higher	Person-to-person interviews
	7	Intercept survey- adjacent merchants	# customers/day	Fall 2014	# customers/day higher	Person-to-person interviews
Demographics	8	Gender	number of women bicycle riders; percentage of bicycle riders that are women	Fall 2014	% women >25%	Human observation and video camera
	9	Children, Seniors (<14 years old, >65 years old)	number of bicycle riders under 14 and over 65; percentage of bicycle riders under 14 and over 65	Fall 2014	% higher	Human observation and video camera

Notes:

1. The values of the data collected might vary depending on circumstances such as construction, weather, change in local economy, or unforeseen events.

2. Satisfaction survey and interviews will include pedestrians, cyclists, motorists, Calgary Transit, emergency services, residents, business owners, and employees.

3. (a) Collision data will include number of collisions and rate of pedestrian, cyclist, and auto collisions, severity (property damage only, injury, fatality), location, and type.

(b) The collisions database may not include all collisions of the prior year, as any court proceedings related to collisions must be finished before collisions can be added to the database.

(c) Collision data can vary significantly from year to year. That's why collision data is usually analyzed over a longer time span, such as three years or five years.

(d) For reference purposes, the number of collisions on the 7 St SW cycle track reduced by 4 crashes or 14% in the year after opening, from 28 per year on average for the three years prior to opening to 24 in the year after opening.

(e) For reference purposes, the collision rate or number of collisions per 100,000 population in Calgary is going down every year, as described in the Safer Mobility Plan.

4. Real time data from select locations will be available for the public to view on the web.

5. Economic vitality targets apply to 2/3 of merchants.

Notes on the pilot evaluation matrices
new notes since December 2014

1. The values of the data collected might vary depending on circumstances such as construction, weather, change in local economy, or unforeseen events.

2. Satisfaction survey and interviews will include pedestrians, cyclists, motorists, Calgary Transit, emergency services, residents, business owners, and employees.

3. The number of responses is small at fewer than 100.

4. (a) Collision data will include number of collisions and rate of pedestrian, cyclist, and auto collisions, severity (property damage only, injury, fatality), location, and type.

~~(b) The collisions database may not include all collisions of the prior year, as any court proceedings related to collisions must be finished before collisions can be added to the database~~.

(c) Collision data can vary significantly from year to year. That's why collision data is usually analyzed over a longer time span, such as three years or five years.

(d) For reference purposes, the number of collisions on the 7 St SW cycle track reduced by 4 crashes or 14% in the year after opening, from 28 per year on average for the three years prior to opening to 24 in the year after opening.

(e) For reference purposes, the collision rate or number of collisions per 100,000 population in Calgary is going down every year, as described in the Safer Mobility Plan.

(f) Collision data was exported on July 31st, 2014 from the Reporting & Analysis of Collision Events (RACE) system. Collision records in RACE are collected and coded by the Calgary Police Service (CPS) for enforcement and legal purposes. The CPS only provides The City of Calgary with records of collisions once the collisions have been processed, including completing any legal action that may be taken as a result of the collision. Consequently, The City of Calgary is delayed in receiving some collision records and recent data may be missing or incomplete. Therefore, minor discrepancies in data may occur due to exporting data on different dates.

(g) The benchmark is an annual average calculated over six years from 2009 to July 2014. The fall 2016 value will be one year of data after the pilot opens, from July 2015 to July 2016.

(h) VKT = vehicle kilometres travelled on the route. BKT = bicycle kilometres travelled on the route.

5. Real time data from select locations will be available for the public to view on the web.

6. (a) 6-hour weekday manual count (6:30-9:30, 15:30-18:30). For pilot routes with multiple counting locations, values are averaged.

 (b) Gender, Children and Senior # of bicycle riders/ day targets have been updated to reflect 6-hour weekday targets.
 December 2014 targets were set using 16 hour counts targets but demographic data is collected using a 6-hour manual

7. Economic vitality targets apply to 2/3 of merchants.

8. Weekdays 6am-6pm.

9. Weekday and weekend 16-hour counts.

10. Careless riding as defined by the Alberta Traffic Safety Act: "without due care and attention" and "without reasonable consideration for persons using the highway" and with reference to the Calgary Traffic Bylaw: the traveller "will not interfere with the pedestrian."

11. Bolded information has been updated from December 2014 Pilot Evaluation matrices.
12. Ongoing construction at these count locations.
13. Design of cycle track at this count location allows for sidewalk riding on south side of 9 Avenue. Percent displayed for sidealk riding on the north side of 9 Avenue.

14. Travel time changes not applicable. 9 Avenue auto travel time, before and after data is not comparable because construction hoarding affected September 2014 travel times and hoarding was removed for September 2015 data collection.

Evaluation Matrix   **5 Street SW Cycle Track Pilot**

Theme	No.	Performance measures	Unit of measurement	Benchmark value[1] fall 2014	Target[1] by fall 2016	Preliminary data collected (Sept 2015)
		Primary Performance Measures				
Satisfaction[2]	1	Satisfaction with the pilot cycle track street	percentage	walking :52% bike riding:[3] 37% driving/passenger: 51%	walking: +10% = 62% bike riding: +30% = 67% driving/passenger: +0% = 51%	
Safety[4]	2	Collision rate	number of crashes crashes per 100,000 km travelled on the route	average: 178 collisions / year (range: 161-200) vehicle collision rate: 0.64 crashes / 100,000km VKT bicycle collision rate: 2.11 crashes / 100,000km BKT	crashes: -10% = 160 crashes / year vehicle collision rate: -10% = 0.58 bicycle collision rate: -10% = 1.90	
Walking, cycling and auto activities	3	Bicycle volumes[5]	number of bicycles / day	North of 5 Ave: 410 @ CPR underpass: 630 North of 15 Ave: 330	North of 5 Ave: 800 @ CPR underpass: 1,200 North of 15 Ave: 700	**North of 5 Ave: 950** **@ CPR underpass: 1220** **North of 15 Ave: 480**
	4	Peak period travel time for drivers	minutes and seconds	6 mins southbound afternoon	7:30 mins	**7:30 mins**
	5	Unlawful bicycle riding[6]	% riding on the sidewalk if >14yrs of age % riding against traffic flow	sidewalk riding:* 19% riding against traffic flow: 2%	sidewalk riding: ≤2% riding against traffic flow: 0%	**sidewalk riding: 2 % riding against traffic flow: 1.7%**
		Secondary Performance Measures				
Economic Vitality[7]	6	Intercept survey- adjacent patrons[3]	# visits per week $ spent per month	visits / week: 250 $ spent / month: $5,400	# visits/week: +2% = 260 $ spent/month +2% = $5,500	
	7	Intercept survey- adjacent merchants[3]	# customers/day[8]	1,700	# customers/day +2% = 1,735	
Demographics[6]	8	Gender	% and # of women bicycle riders / day	% women: 18% # women: 50	% women: 25% # women: **140**[11]	**% women: 25.7%** **# women: 148**
	9	Children, Seniors (<18 years old, >65 years old)	% and # of bicycle riders under 18 / day % and # of bicycle riders over 65 / day	<18: 0.6%, 1 >65: 0.8%, 2	<18: 2x % = 1.5%, **8**[11] >65: 2x % = 1.5%, **8**[11]	**<18: 0.9%, 5** **>65: 2x % =0.1%, 1**

Evaluation Matrix   8 Avenue SW Cycle Track Pilot

Theme	No.	Performance measures	Unit of measurement	Benchmark value[1] fall 2014	Target[1] by fall 2016	Preliminary data collected (Sept 2015)
		Primary Performance Measures				
Satisfaction[2]	1	Satisfaction with the pilot cycle track street	percentage	walking :54% bike riding:[3] 71% driving/passenger: 54%	walking: +10% = 64% bike riding: +10% = 81% driving/passenger: +0% = 54%	
Safety[4]	2	Collision rate	number of crashes crashes per 100,000 km travelled on the route	average: 63 collisions / year (range: 53-79) vehicle collision rate: 2.41 crashes / 100,000km VKT bicycle collision rate: 1.15 crashes / 100,000km BKT	crashes: -10% = 57 crashes / year vehicle collision rate: -10% = 2.17 bicycle collision rate: -10% = 1.03	
Walking, cycling and auto activities	3	Bicycle volumes[5]	number of bicycles / day	West of 8 St W: 480 West of 3 St W: 920	West of 8 St W: 1,000 West of 3 St W: 1,800	**West of 8 St W: 460** **West of 3 St W: 840**
	4	Peak period travel time for drivers	minutes and seconds	5 ½ mins eastbound morning 5 ½ mins westbound afternoon	+ ≤20% = 6 ½ mins	**6:15 mins eastbound morning 5 ½ mins westbound afternoon**
	5	Unlawful bicycle riding[6]	% riding on the sidewalk if >14yrs of age % riding against traffic flow	sidewalk riding: 7% riding against traffic flow: 3%	sidewalk riding: ≤2% riding against traffic flow: 0%	**sidewalk riding: 3.7% riding against traffic flow: 2.9%**
		Secondary Performance Measures				
Economic Vitality[7]	6	Intercept survey- adjacent patrons[3]	# visits per week $ spent per month	visits / week: 80 $ spent / month: $3,900	# visits/week: +2% = 82 $ spent/month +2% = $4,000	
	7	Intercept survey- adjacent merchants[3]	# customers/day[8]	1,600	# customers/day +2% = 1,630	
Demographics[6]	8	Gender	% and # of women bicycle riders / day	% women: 20% # women: 80	% women: 25% # women: **200**[11]	**% women: 21.4%** **# women: 100**
	9	Children, Seniors (<18 years old, >65 years old)	% and # of bicycle riders under 18 / day % and # of bicycle riders over 65 / day	<18: 0.4%, 1 >65: 0%, 0	<18: 2x % = 1.0%, **8**[11] >65: 1.0%, **8**[11]	**<18: 0.5%, 4** **>65: 2x % =0.0%, 0**

Evaluation Matrix **9 Avenue SE Cycle Track Pilot**

Theme	No.	Performance measures	Unit of measurement	Benchmark value[1] fall 2014	Target[1] by fall 2016	Preliminary data collected (Sept 2015)
		Primary Performance Measures				
Satisfaction[2]	1	Satisfaction with the pilot cycle track street	percentage	walking :38% bike riding:[3] 12% driving/passenger: 60%	walking: +10% = 48% bike riding: +30% = 42% driving/passenger: +0% = 60%	
Safety[4]	2	Collision rate	number of crashes crashes per 100,000 km travelled on the route	average: 62 collisions / year (range: 48-74) vehicle collision rate: 0.32 crashes / 100,000km VKT bicycle collision rate: 0 crashes / 100,000km BKT	crashes: -10% = 56 crashes / year vehicle collision rate: -10% = 0.29 bicycle collision rate: -10% = 0	
Walking, cycling and auto activities	3	Bicycle volumes[5]	number of bicycles / day	East of Macleod Trail: 290	East of Macleod Trail: 600	**East of Macleod Trail: 230[12]**
	4	Peak period travel time for drivers	minutes and seconds	5 mins westbound afternoon	+ ≤20% = 6 mins	**See notes.[14]**
	5	Unlawful bicycle riding[6]	% riding on the sidewalk if >14yrs of age % riding against traffic flow	sidewalk riding: 64% riding against traffic flow: 12%	sidewalk riding: ≤10% riding against traffic flow: 0%	**sidewalk riding: 2.7%[13] riding against traffic flow: 1.9%**
		Secondary Performance Measures				
Economic Vitality[7]	6	Intercept survey- adjacent patrons[3]	# visits per week $ spent per month	visits / week: 190 $ spent / month: $7,700	# visits/week: +2% = 195 $ spent/month +2% = $7,800	
	7	Intercept survey- adjacent merchants[3]	# customers/day[8]	450	# customers/day +2% = 460	
Demographics[6]	8	Gender	% and # of women bicycle riders / day	% women: 27% # women: 41	% women: 30% # women: **120[11]**	**% women: 33% # women: 69**
	9	Children, Seniors (<18 years old, >65 years old)	% and # of bicycle riders under 18 / day % and # of bicycle riders over 65 / day	<18: 2.6%, 4 >65: 1.3%, 2	<18: 2x % = 5.0%, **20[11]** >65: 2x % = 2.6%, **10[11]**	**<18: 0%, 0 >65: 2x % =4.8% (10)**

Theme	No.	Performance measures	Unit of measurement	Benchmark value[1] fall 2014	Target[1] by fall 2016	Preliminary data collected (Sept 2015)
		Primary Performance Measures				
Satisfaction[2]	1	Satisfaction with the pilot cycle track street	percentage	walking :63% bike riding:[3] 53% driving/passenger: 60%	walking: +10% = 73% bike riding: +20% = 73% driving/passenger: +0% = 60%	
Safety[4]	2	Collision rate	number of crashes crashes per 100,000 km travelled on the route	average: 153 collisions / year (range: 129-193) vehicle collision rate: 0.26 crashes / 100,000km VKT bicycle collision rate: 2.51 crashes / 100,000km BKT	crashes: -10% = 138 crashes / year vehicle collision rate: -10% = 0.23 bicycle collision rate: -10% = 2.26	
Walking, cycling and auto activities	3	Bicycle volumes[5]	number of bicycles / day	West of 8 St W: 140 West of 2 St W: 190 West of 3 St E: 220	West of 8 St W: 600 West of 2 St W: 800 West of 3 St E: 700	**West of 8 St W: 720** **West of 2 St W: 680** **West of 3 St E: 210**
	4	Peak period travel time for drivers	minutes and seconds	11 ½ mins eastbound afternoon	+ ≤20% = 14 mins	**13:30 mins**
	5	Unlawful bicycle riding[6]	% riding on the sidewalk if >14yrs of age % riding against traffic flow	sidewalk riding: 23% riding against traffic flow: 5%	sidewalk riding: ≤2% riding against traffic flow: 0%	**sidewalk riding: 5% riding against traffic flow: 1.6%**
		Secondary Performance Measures				
Economic Vitality[7]	6	Intercept survey- adjacent patrons[3]	# visits per week $ spent per month	visits / week: 210 $ spent / month: $9,300	# visits/week: +2% = 215 $ spent/month +2% = $9,500	
	7	Intercept survey- adjacent merchants[3]	# customers/day[8]	3,300	# customers/day +2% = 3,400	
Demographics[6]	8	Gender	% and # of women bicycle riders / day	% women: 23% # women: 25	% women: 25% # women: 95[11]	**% women: 32%** **# women: 90**
	9	Children, Seniors (<18 years old, >65 years old)	% and # of bicycle riders under 18 / day % and # of bicycle riders over 65 / day	<18: 0%, 0 >65: 1.1%, 1	<18: 2.2%, 9[11] >65: 2x % = 2.2%, 9[11]	**<18: 0%, 0** **>65: 2x % =0.5%, 1**

Evaluation Matrix   **Stephen Avenue Bicycle Pilot**

Theme	No.	Performance measures	Unit of measurement	Benchmark value[1] fall 2014	Target[1] by fall 2016	Preliminary data collected (Sept 2015)
		Primary Performance Measures				
Satisfaction[2]	1	Satisfaction with the pilot street	percentage	walking :82% (6am-6pm) bike riding:[3]46% (6am-6pm) driving/passenger: 54% (6pm-6am)	walking: +0% = 82% bike riding: +30% = 76% driving/passenger: +0% = 54%	
Safety[4]	2	Collision rate	number of crashes crashes per 100,000 km travelled on the route	average: 24 crashes/ year	-10% = 20 crashes / year	
	3	Near-misses involving bicycles	# near-miss events % of near-miss events compared to #bicycles	**0 near-miss events 0% of near-miss events compared to #bicycles**	**0 to ≤1% (6)**	
	4	Speeds (motor vehicles and bicycles)	85th percentile speed	**19.5 km/hour**	**≤25 km/hr**	
Walking, cycling and auto activities	5	Bicycle volumes[5][9]	number of bicycles / day	380	1,200	**580**
	6	Pedestrian volumes[5][9]	number of pedestrians	4,500	+0% = 4,500	**3,960**
	7	Careless bicycle riding[10]	number of bicycles riding carelessly percentage of bicycles riding carelessly	**0 bicycles riding carelessly 0% bicycles riding carelessly**	**0 to ≤1% (6)**	
		Secondary Performance Measures				
Economic Vitality[7]	6	Intercept survey- adjacent patrons[3]	# visits per week $ spent per month	visits / week: 115 $ spent / month: $6,500	# visits/week: +2% = 120 $ spent/month +2% = $6,600	
	7	Intercept survey- adjacent merchants[3]	# customers/day[8]	4,200	# customers/day +2% = 4,300	
Demographics	10	Gender	% and # of women bicycle riders / day	% women: 12% # women: 24	% women: 25% # women: **150[11]**	**% women: 22% # women: 47**
	11	Children, Seniors (<18 years old, >65 years old)	% and # of bicycle riders under 18 / day % and # of bicycle riders over 65 / day	<18: 0%, 0 >65: 4.1%, 8	<18: 1.0%, **6[11]** >65: 2x % = 8.2%, **50[11]**	**<18: 0%, 0 >65: 2.9%, 6**