

# Appendices

## Data and methods

This criminal justice system report card is comparative. It is based on objective, available data from individual provinces and territories. The calculation of grades was a quantitative statistical exercise, not a subjective or qualitative one.

We examined how each province and territory performed on a variety of metrics in relation to each other and we assigned grades using a standard normal transformation. We did not assign quotas for how many grades of each category would be assigned, but the nature of the approach means that some provinces and territories must earn grades at B or above and some others must earn grades of C+ or below.<sup>2</sup> As discussed below, standard deviations were used to assign these grades. Currently there are no Canadian standards for these metrics so we simply compared the jurisdictions against each other. We hope that this report card generates some discussion around what appropriate benchmarks should be, much like what has been done with health service wait times. For example, some provinces have set their own targets for certain metrics that could be valuable as a starting point.

As in any data reporting initiative, we made assumptions about how best to treat the data to give an accurate reflection of each province's performance. Drawing on the analogy of a student's report card, we treated each province and territory as an individual and examined their performance on a wide range of indicators (akin to a test or assignment), which we aggregated to a domain, i.e., one of the core objectives of the criminal justice system (like a subject grade), and then aggregated the subject grades to an overall grade.

In all cases we used up to three years of the most recently available data for each metric. For some measures, there has been no recent data update, but rather than exclude the measure because it is older, we thought it would be worthwhile to draw attention to this and recommend that this data be collected again in the near future. In other cases, the data has only been collected once or twice, so we used what was available. We believed that it was better to report limited data than impose exclusion criteria that would leave some measures unreported entirely if the data were incomplete. We hope this creates an incentive for better reporting in the future.

In analyzing the data, there are a number of technical points to highlight:

- While individual metrics are normalized (e.g. per capita, per 1,000 crimes, etc.), for overall outcomes we averaged across provinces, but did not weight the data by province size. Doing this would have had the effect of compressing the data towards the scores of Ontario, and smaller provinces would have had very little impact on the overall average.<sup>3</sup>
- Standard deviations are calculated for the three-year averages for the 10 provinces, in order to calculate grades for each metric.
- The results for the territories are vastly different than for the provinces, so to avoid significantly skewing the data, these results are not used in the calculations of the means and standard deviations for each metric.

- However, scores and grades were calculated for the territories using the means and standard deviations computed for the provinces.
- Scores are capped at +3 and -3 standard deviations so that extreme values for individual metrics will not skew the overall results. This only affected scores for the territories.
- The procedure followed was to average each measure for each province across the years available. These figures were then averaged across the 10 provinces. Then the standard deviation of the 10 provinces was calculated. The difference is divided by the standard deviation. It was multiplied by -1 if a higher score is a worse outcome.
- Letter grades were then assigned as follows:

Score -1.50 or lower = F  
 Between -1.50 and -1.00 = D  
 Between -1.00 and -0.50 = C  
 Between -0.50 and 0.00 = C+  
 Between 0.00 and 0.50 = B  
 Between 0.50 and 1.00 = B+  
 Between 1.00 and 1.50 = A  
 Greater than 1.50 = A+

- In cases where there are optimums, scores are calculated (i.e., where a maximum or minimum outcome is not better, but rather an outcome close to the mean of all jurisdictions) in absolute distance from the mean and grades assigned as follows:

Between 0 and 0.25 of mean = A+  
 Between 0.25 and 0.50 of mean = A  
 Between 0.50 and 0.75 of mean = B+  
 Between 0.75 and 1.00 of mean = B  
 Between 1.00 and 1.25 of mean = C+  
 Between 1.25 and 1.50 of mean = C  
 Between 1.50 and 1.75 of mean = D  
 Greater than 1.75 = F

- Scores and grades are provided for each individual metric.
- Within each domain (or core objective of the criminal justice system), the scores for each available metric are averaged to give an overall score.
- As noted above, not all provinces and territories have scores for all metrics. We calculated averages based on the data that are available.
- The overall grade is the average of the domain scores and grades assigned using the rubric above.
- All calculations were done using Microsoft Excel.

## Data sources and limitations

The table below shows each metric used, the years of data available, the source for that data, and any calculations used. In many cases the data available were counts or totals and to account for different population sizes these had to be normalized, typically by the population of that province or territory, or the number of crimes reported in the province or territory for that year.

### METRICS, YEARS, AND SOURCES

MEASURE	SOURCE	YEARS	NOTES
PUBLIC SAFETY			
Violent Crime Rate	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051</a>	2013-2015	
Property Crime Rate	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051</a>	2013-2015	
Other Crime Rate	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051</a>	2013-2015	
Federal Statute Violations	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051</a>	2013-2015	
Traffic Crimes	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520051</a>	2013-2015	
Weighted Clearance Rate (violent)	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520052">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520052</a>	2013-2015	
Weighted Clearance Rate (non-violent)	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520052">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520052</a>	2013-2015	
Failure to Appear <sup>1</sup> per 1000 Crimes	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056</a>	2012-2014	(number/crimes that year)*1000
Failure to Appear % Guilty	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056</a>	2012-2014	
Breach of Probation per 1000 Crimes	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056</a>	2012-2014	(number/crimes that year)*1000
Breach of Probation % Guilty	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056</a>	2012-2014	
Unlawfully at Large per 1000 Crimes	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056</a>	2012-2014	(number/crimes that year)*1000
Unlawfully at Large % Guilty	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056</a>	2012-2014	
Failure to Comply with Order per 1000 Crimes	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056</a>	2012-2014	(number/crimes that year)*1000
Failure to Comply with Order % Guilty	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520056</a>	2012-2014	
Police Enforcing the Law	(2009) <a href="http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm">http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm</a> (2014) <a href="http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm">http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm</a>	2009, 2014	
Police Ensuring Safety	(2009) <a href="http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm">http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm</a> (2014) <a href="http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm">http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm</a>	2009, 2014	
Satisfied with Safety	(2009) <a href="http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm">http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm</a> (2014) <a href="http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm">http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm</a>	2009, 2014	

SUPPORT FOR VICTIMS			
Police Supplying Information	(2009) <a href="http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm">http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm</a> (2014) <a href="http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm">http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm</a>	2009, 2014	
Police Being Approachable	(2009) <a href="http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm">http://statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm</a> (2014) <a href="http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm">http://www.statcan.gc.ca/pub/89-652-x/2015007/t/tbl04-eng.htm</a>	2009, 2014	
Proportion of Offenders Given Restitution Orders	<a href="http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&amp;p2=33&amp;id=2520056">http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&amp;p2=33&amp;id=2520056</a>	2012-2014	
Number of Referrals to Victims Services per 1000 crimes	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;retrLang=eng&amp;id=2560019&amp;tabMode=dataTable&amp;srchLang=-1&amp;p1=-1&amp;p2=9">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;retrLang=eng&amp;id=2560019&amp;tabMode=dataTable&amp;srchLang=-1&amp;p1=-1&amp;p2=9</a>	2008, 2010, 2012	(number/crimes that year)*1000
COSTS AND RESOURCES			
Cost of Public Safety per Person	<a href="http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&amp;p2=33&amp;id=3850040">http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&amp;p2=33&amp;id=3850040</a>	2012-2014	Total cost / population
Cost of Corrections per Capita (\$000s)	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;retrLang=eng&amp;id=2510018&amp;pasr=&amp;pattern=&amp;stByVal=1&amp;p1=1&amp;p2=35&amp;tabMode=dataTable&amp;csid=">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;retrLang=eng&amp;id=2510018&amp;pasr=&amp;pattern=&amp;stByVal=1&amp;p1=1&amp;p2=35&amp;tabMode=dataTable&amp;csid=</a>	2013-2015	Total cost / population
Average Daily Inmate Cost	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;retrLang=eng&amp;id=2510018&amp;pasr=&amp;pattern=&amp;stByVal=1&amp;p1=1&amp;p2=35&amp;tabMode=dataTable&amp;csid=">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;retrLang=eng&amp;id=2510018&amp;pasr=&amp;pattern=&amp;stByVal=1&amp;p1=1&amp;p2=35&amp;tabMode=dataTable&amp;csid=</a>	2013-2015	
Number of Police per 100,000 population	Number of police officers: <a href="http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/legal05a-eng.htm">http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/legal05a-eng.htm</a> Divided by population: <a href="http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/demo02a-eng.htm">http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/demo02a-eng.htm</a>	2013-2015	(Number of police / population) * 100,000
FAIRNESS AND ACCESS			
Police Being Fair	<a href="http://www.statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm">http://www.statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm</a>	2009, 2014	
Legal Aid Expenditure on Criminal Matters per crime	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2580007">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2580007</a>	2012-2014	Total Expenditure/ number of crimes
Percent of Criminal Trials Outcome Guilty	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520053">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520053</a>	2012-2014	
Proportion of Aboriginal Persons in Custodial Admissions to Proportion of Aboriginal Persons in Population	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;retrLang=eng&amp;id=2510022&amp;pasr=&amp;pattern=&amp;stByVal=1&amp;p1=1&amp;p2=35&amp;tabMode=dataTable&amp;csid=">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;retrLang=eng&amp;id=2510022&amp;pasr=&amp;pattern=&amp;stByVal=1&amp;p1=1&amp;p2=35&amp;tabMode=dataTable&amp;csid=</a>  Source of Aboriginal population: <a href="https://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/2011001/tbl/tbl02-eng.cfm">https://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/2011001/tbl/tbl02-eng.cfm</a>	2012-2014	This is measured as a ratio of the percentage of Aboriginal custodial admissions divided by the percentage of each province that is Aboriginal
EFFICIENCY			
Police Responding Promptly	<a href="http://www.statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm">http://www.statcan.gc.ca/pub/85-002-x/2012001/article/11647/tbl/tbl08-eng.htm</a>	2009, 2014	
Percentage of Cases Stayed or Withdrawn	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520053">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520053</a>	2012-2014	
Average Criminal Case Elapsed Time	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520054">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2520054</a>	2010-2014	
Number of accused on remand, per 1000 crimes	<a href="http://www.statcan.gc.ca/pub/85-002-x/2015001/article/14163/tbl/tbl03-eng.htm">http://www.statcan.gc.ca/pub/85-002-x/2015001/article/14163/tbl/tbl03-eng.htm</a>	2012-2014	(number/crimes that year)*1000
Criminal Code Incidents per Police Officer	<a href="http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2540002">http://www5.statcan.gc.ca/cansim/a26?lang=eng&amp;id=2540002</a>	2012-2014	

1 Failure to appear, breach of probation, unlawfully at large and failure to comply are based on the number of cases (the alternative would be the number of charges, since each case might have multiple charges. Note that this is based on the number of cases and not the number of charges as there may be many charges per case. Data is derived from Cansim 252-0053.

## LIMITATIONS

As noted earlier, not all data were available for all years for all provinces and territories. We hope that in future years, the data become more complete.

We also believe that the justice system has many important features that are not captured here, simply because the data are not available, or at least not available at the provincial and territorial level. Many provinces do not report civil court data, there is limited information on recidivism and unreported crimes, and the perceptions of individuals towards key justice institutions are not regularly captured. We hope that this report card sparks a wider discussion on justice statistics, what should be measured, and by whom.

The approach taken here is comparative, and with this comes an assumption that an average performance warrants a grade of C+ or B. It may be that there are areas where Canada does especially well compared to other countries, and all of the provinces and territories deserve higher scores if compared on that basis. By contrast, there may be areas where Canada does especially poorly and all provinces and territories deserve lower grades if assessed globally or based on peer countries. However, determining which metrics these might be and what a “good” or “bad” score would look like is extremely subjective and as such we choose to report the data without imposing such subjective judgments. This report card has the advantage of highlighting over- and under-performing metrics by jurisdiction within Canada, which is a valuable exercise.