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Policy implications of the interaction of formal and informal institutions

Thematic area: Health Communities

1. ABSTRACT

The aim of this study is to get a better understanding of traffic transgressions and transgressors, in order to get a better idea of how road users respond to policy incentives.

In our discussions with the Traffic Services of the City of Cape Town, it became clear that they do not analyse the data to the same extent that we do. The City has embarked, for example, on certain interventions, and they have not yet evaluated the efficacy thereof. This project is therefore beneficial for the City to determine whether these interventions have had any effects - we provided them with information on the profile of the typical transgressor and what transgressions are being enforced.

2. INTRODUCTION AND AIMS / QUESTIONS

The aim of this study is to get a better understanding of traffic transgressions and transgressors, in order to ascertain how road users respond to incentives. In the study we identified the characteristics of those who have transgressed traffic rules in the recent past, for example, by age, gender and neighbourhood. Such profiling of transgressors might be useful for planning enforcement actions and for designing interventions aimed at changing behaviour-influencing habits and norms.

In a second study, we analysed longer-term trends in traffic offences and specifically, the payment of fines. Initially our aim was to analyse changes in enforcement (such as the department's sms campaign – see below for more details), but the dataset we received did not include a time period suitable for such evaluations.

3. RESEARCH APPROACH AND METHODS

We obtained data from the City of Cape Town pertaining to traffic offences for the period July 2014 to July 2016. Individual records on traffic offences were provided, with the following information on each record: offence notice number, offence code and description, the suburb of offence, vehicle type and make, charge paid, charge withdrawn, partial identity number (to calculate age and gender), postal code of residence, and the notice of offence date and payment of offence data.

We did a quantitative analysis of certain characteristics of traffic-law offenders. We have received a second round of anonymised data from the City of Cape Town Traffic Department in August. This second round of data included enough detail to be able to identify at what stages payments were made.

4. CONCLUSIONS AND RECOMMENDATIONS FOR FOLLOW-UP ACTION

We have established a working relationship with Cape Town Traffic Services. The analysis of the data provides some information about typical offenders, which could assist Cape Town Traffic Services in allocating resources and in structuring enforcement measures to reduce offences.

We have published two reports for Cape Town Traffic Services and have finalised our first academic paper.

From our results we have deduced that speeding received the most citations during the time period that we have data for, (i.e. 51%), with transgressions linked to licencing in second place (at 24%). More than 55% of all transgressions were incurred by males and approximately 58% of the speeding offences were incurred by males.

An interesting observation was that for the period under investigation, of the offences that were not withdrawn, only approximately 26% were paid as at August 2016. Speeding offences were more likely to be paid, possibly because of the transgressors' perceptions that speeding offences may be easier to prosecute given the technology used to record the offence (such as cameras producing a photo of the offender).

The Cape Town Traffic department commenced with interventions to induce payment of charges. Two campaigns were implemented in July 2014:

1) a campaign that includes sending cell phone (sms) messages to transgressors of an offence, and 2) renewal of car licences are prohibited if there are any outstanding charges not paid. Given that these campaigns were initiated at the beginning of the period under investigation, there seems to have been less of an impact on encouraging transgressors to pay their charges.

Looking at the speeding citations from the top 21 most frequent citations over the 3-year period, the data reveal that at the time of extracting the data (August 2016), only 38% of these charges were paid. Of the offences cited in 2014, 52% of the charges were paid, as compared to 2015 (39%) and 2016 (23%). This result is expected as one would expect earlier citations (2014) to be paid first (see Figure 1 below). In the case of the licencing citations less than 10% of these charges were paid (see Figure 2 below).

Figure 1: Speeding charges paid as at August 2016, for entire period and by year of citation (offence date notice)

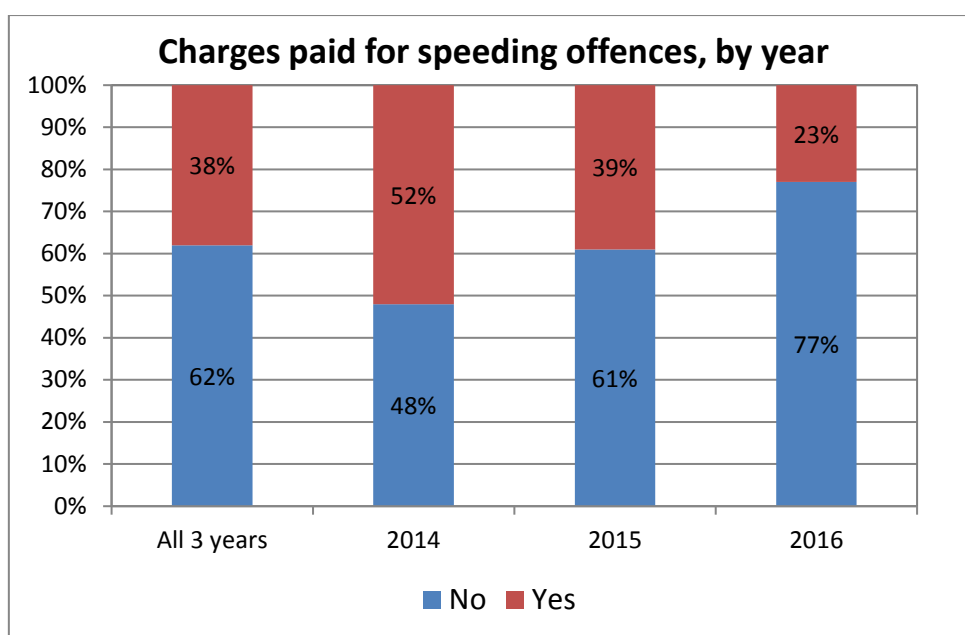
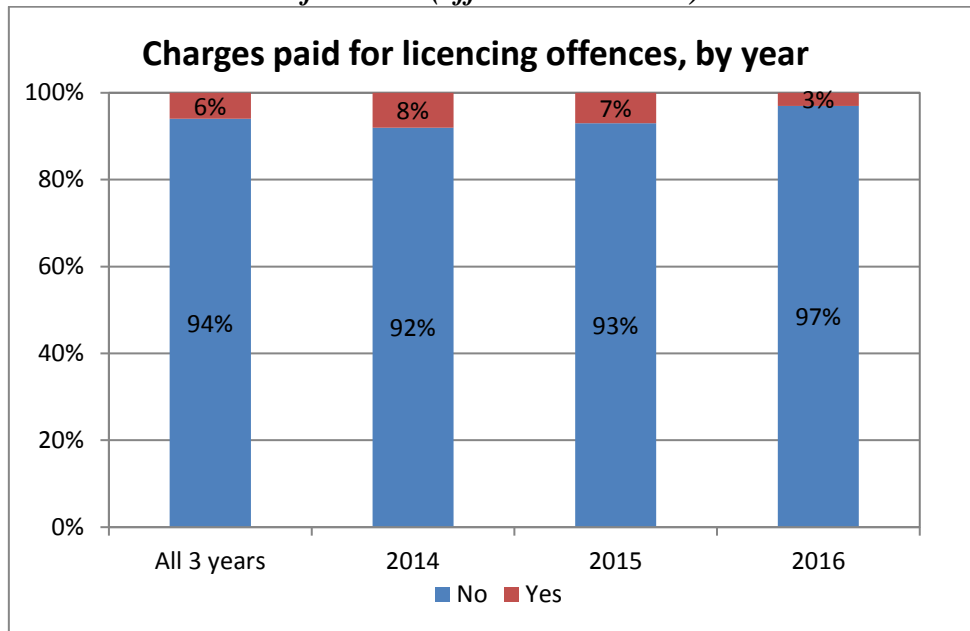


Figure 2: Licensing charges paid as at August 2016, for entire period and by year of citation (offence date notice)



We also categorized the charges paid according to gender as well as age group (as shown in Table 1 below).

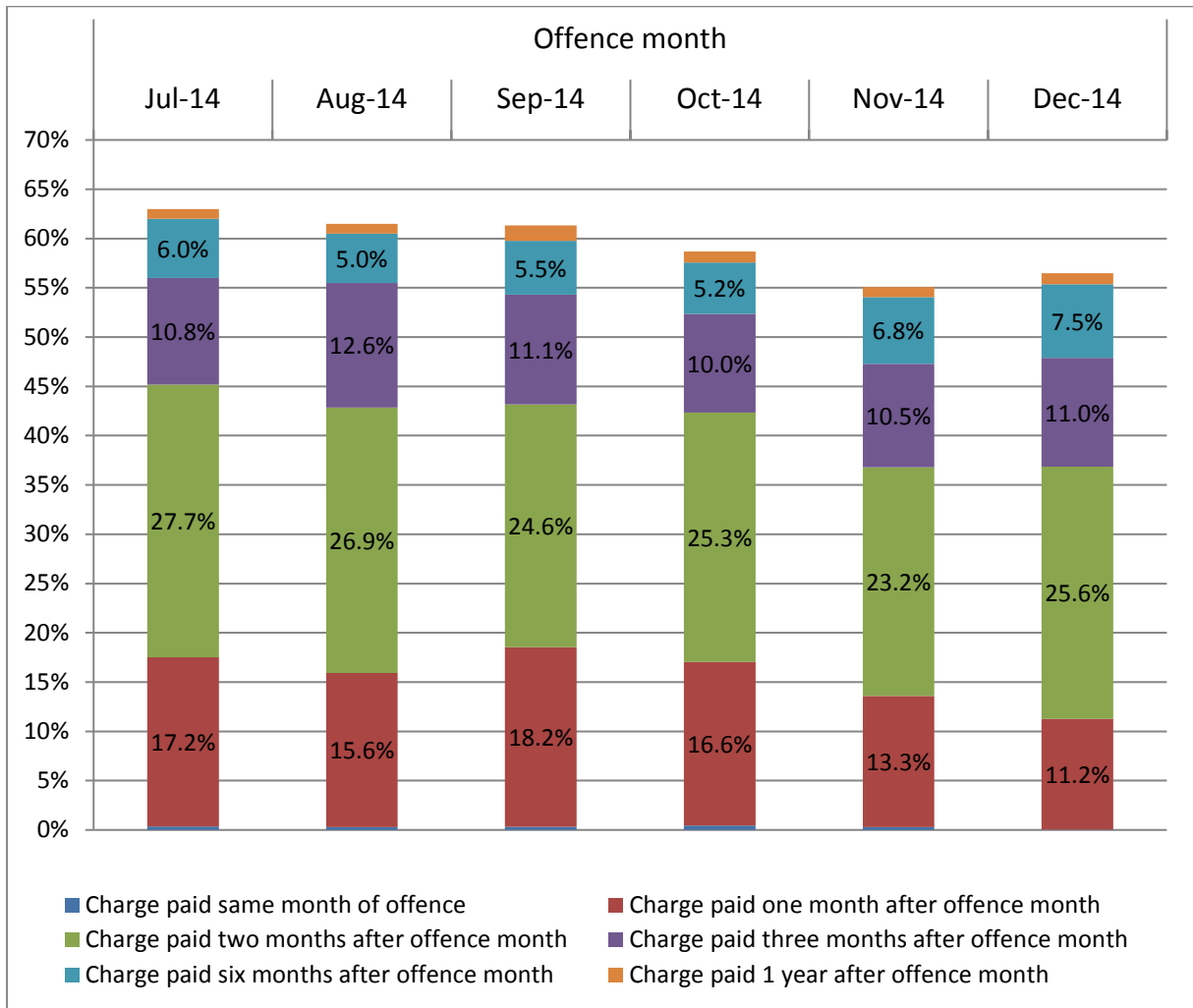
Table 1: Gender composition of all traffic citations for entire period

Gender	Frequency	Percentage
Female	1 344 246	34.7%
Male	2 183 028	56.4%
Unknown	239 281	6.2%
Missing observations	107 257	2.7%
Total	3 873 812	100.0%

An interesting part of our second report to the Traffic Services is on the payments of charges for the speeding category. An analysis of payments for speeding offences (by offence month for the six months July to December 2014), reveals that one year after the month of offence, approximately 93% of all offences for that month had been paid (note this is 93% of what is paid after the whole period under investigation, not of total charges).

The greater proportion of payments within a year after the offence month took place two months after the month of offence – see Figure 3 below. It shows how many payments were made for offences that occurred during the six months of July to December 2014 as a proportion of the total offences paid for a specific offence month (i.e. payment one month, two months, three months, six months and one year).

Figure 3: Payments of speeding charges by offence month as a proportion of total speeding charges paid for that offence month: July to December 2014



Information from Table 2 below shows that a very small percentage of offences are not paid after the first notice of offence (as a percentage of all charges issued a first notice of offence at the time of data collection); after receiving the second notice, as high as 95 percent of charges are paid. It should however be noted that the figures below are proportional to the total number of charges paid – at what stage are they being paid. The bigger problem is the non-payment proportion still being excessively high at 74% for the period under investigation. An area that we would like to investigate further is the last of the three categories shown in Table 2, namely summons, criminal court register, and warrant of arrest. We find it remarkable that a summons and a warrant of arrest do not have that big impact on payment, and begs the question what drives behavioural responses to the formal enforcement currently in place.

Table 2: All charges paid as at August 2016, by previous notice status

Charges paid after first notice of offence			
Charge Paid	Frequency	Percentage	Cum. Percentage
No	29 940	6.5%	6.5%
Yes	430 296	93.5%	100%
Total	460 236	100%	
Charges paid after second notice of offence			
Charge Paid	Frequency	Percentage	Cum. Percentage
No	4 778	5.2%	5.2%
Yes	86 495	94.8%	100%
Total	91 273	100%	
Charges paid after summons			
Charge Paid	Frequency	Percentage	Cum. Percentage
No	1 550 158	83.6%	83.6%
Yes	304 056	16.4%	100%
Total	1 854 214	100%	
Charges paid after CCR (criminal court register)			
Charge Paid	Frequency	Percentage	Cum. Percentage
No	352	0.8%	0.8%
Yes	41 088	99.2%	100%
Total	41 440	100%	
Charges paid after WOA (warrant of arrest)			
Charge Paid	Frequency	Percentage	Cum. Percentage
No	215 322	89.7%	89.7%
Yes	24 733	10.3%	100%
Total	240 055	100%	

We were unable to complete all stipulated objectives (as indicated at the start of this project). One reason for this is the time period we waited for the data. This was not due to a lack of willingness from the Traffic Services to provide us with the data, but due to technical difficulties Syntell had with the extraction of such a large number of data points (there are almost 4 million transgressions for the three-year period). To clean such a large dataset also took a long time and this allowed little time for the data analysis. That said, we feel that our report will add to the knowledge base of the Traffic Services and we plan to have a meeting with them soon to present our second report.

We have budgeted for an academic workshop, but for reasons already mentioned we were not in the position to organise that. We request CHEC to give us a time extension and allow us to utilise the money budgeted for the workshop. From the data analysis we deduced that payment of charges is a big problem. At this stage traffic transgressions are a criminal procedure in the South African law. We would like to propose a workshop where we not only include the Traffic Services of the City of Cape Town, but also academics from the Law Faculty to explore the legal aspects of enforcement policies. The questions that we would like to put forward for such a workshop are:

- Why do transgressors not pay their charges after they received a warrant of arrest?
- What influence does the ignorance of criminal transgressions have on the perceived effectiveness of criminal procedures in South Africa?
- With the problems encountered with the pilot phase of Aarto in Johannesburg and Tshwane, what other options are available to improve enforcement of traffic transgressions?

5. BUDGET

	Description of budget line item	Budget	Actual
a.	1x stipend for postgraduate student to assist in data analysis	15 000	15164.50
b.	2 x workshop presentations to Cape Town Traffic Services	2 500	131.60
c.	1 x academic workshop aimed at the academic community and main stakeholders from the City of Cape Town at Stias, Stellenbosch (20 x R400)	8 000	0
d.	Storage capacity and security of data	2 500	0
TOTAL		28 000	15 296.10