

# Family Violence and Gaming statistical analysis for Whittlesea Community Connections

City of Whittlesea Research Unit – September 2013

## Executive Summary

- Compared with other metropolitan LGAs, the City of Whittlesea generally has a lower number of EGMs per capita but residents are losing greater amounts of money to EGMs per year. The municipality was also ranked fifth out of all metropolitan municipalities in terms of recorded family violence incidents and sixth when examining family violence incidents per capita.
- The analysis is indicative of a correlation between the incidence of family violence and losses to EGMs within the City of Whittlesea. However, the data analysed do not show that the availability of EGMs and increased gambling losses directly cause an increase in the incidence of family violence.
- LGAs that have a higher number of EGMs and recorded gambling losses by patrons seem to be placed in areas of high disadvantage and the incidence of family violence may have increased for other reasons common to lower social economic groups. Research on the prevalence of gambling and family violence in the community identifies a range of key determinants and contributing factors associated with these two issues respectively (e.g. social isolation, income, mental health, employment status, alcohol and illicit drugs). It is particularly noteworthy that the strong correlation between gambling losses and SEIFA scores suggests it is likely that there are other factors which could be related or driving increasing trends in family violence and EGM losses
- The number of incidents of family violence reported to police in Victoria has increased dramatically since 2004. Victoria Police suggests that this significant increase is unlikely to represent an increase in family violence incidents occurring in the community, rather an increase in the number of reports made to police and police increasingly taking a proactive approach to family violence via the *Code of Practice for the Investigation of Family Violence* introduced in August 2004 and legislative change generated by the *Family Violence Protection Act 2008*.

## Introduction

The Research Unit was approached by Whittlesea Community Connections to analyse publicly available data on family violence incidents and electronic gaming machine statistics in the City of Whittlesea. The aim of the research is to identify if there is any relationship between the incidence of family violence and the availability of Electronic Gaming Machines (EGMs). The analysis compares the City of Whittlesea and other Local Government Areas (LGAs) across metropolitan Melbourne and examines the concentration of EGMs as well as total EGM losses in each LGA measured against the incidence of family violence in each LGA. The timeframe used for the analysis is 1999/00 – 2012/13.

The following datasets informed the analysis presented in this report:

<b>Family violence</b>	Victoria Police (2013). <i>Victoria Police Family Incident Reports 2008/09 – 2012/13 with rates</i> . <a href="http://www.police.vic.gov.au/content.asp?a=internetBridgingPage&amp;Media_ID=72311">http://www.police.vic.gov.au/content.asp?a=internetBridgingPage&amp;Media_ID=72311</a> , accessed 30/08/13.  City of Greater Dandenong (2013). <i>Family Violence Incidents</i> . <a href="http://www.greaterdandenong.com/document/18464/statistical-data-for-victorian-communities">http://www.greaterdandenong.com/document/18464/statistical-data-for-victorian-communities</a> , accessed 30/08/13.
<b>Electronic gaming machines</b>	Victorian Commission for Gambling and Liquor Regulation (VCGLR) (2013). <i>Historical electronic gaming data by Local government area</i> . <a href="http://www.vcglr.vic.gov.au/home/resources/data+and+research/historical+electronic+gaming+data">http://www.vcglr.vic.gov.au/home/resources/data+and+research/historical+electronic+gaming+data</a> , accessed 30/08/13.  City of Greater Dandenong (2013). <i>Gambling venues, machines and losses</i> . <a href="http://www.greaterdandenong.com/document/18464/statistical-data-for-victorian-communities">http://www.greaterdandenong.com/document/18464/statistical-data-for-victorian-communities</a> , accessed 30/08/13.

## Family Violence and Gaming statistical analysis for Whittlesea Community Connections

The report is divided into four sections:

- A comparison of key EGM statistics for the City of Whittlesea and other LGAs
- A comparison of key family violence statistics for the City of Whittlesea and other LGAs
- Discussion on the correlation between EGM availability and losses and family violence incidents in the City of Whittlesea municipality and other metropolitan LGAs
- Conclusion.

### Electronic Gaming Machines (EGMs)

Within the City of Whittlesea, there are 9 venues with a total of 621 EGMs (VCGLR 2013). In 2012/13, there were 4.8 EGMs per 1,000 adults residing in the City of Whittlesea municipality, which is one of the lowest per capita number of EGMs compared to other LGAs. While this number is lower than a number of other metropolitan LGAs (for example, the figure is 8.2 for neighbouring LGA Darebin) and lower than the state average (6.1 EGMs per 1,000 adults), the estimated losses per capita for adults in 2012/13 in the City of Whittlesea was \$727, which was seventh highest of all metropolitan LGAs and higher than the state average of \$568 per person per annum.

This suggests that while there are a lower number of EGMs per capita within the municipality, City of Whittlesea residents are gambling at higher rates and losing more money to EGMs compared with residents from other metropolitan LGAs. Between 2003/04 and 2011/12, the average amount of money lost to EGMs across the City of Whittlesea municipality was \$85.9 million per annum. This placed the City of Whittlesea behind only six other metropolitan LGAs: Brimbank, Casey, Darebin, Greater Dandenong, Hume and Monash.

Table 1 provides a breakdown of the key statistics relating to EGMs for each metropolitan LGA.

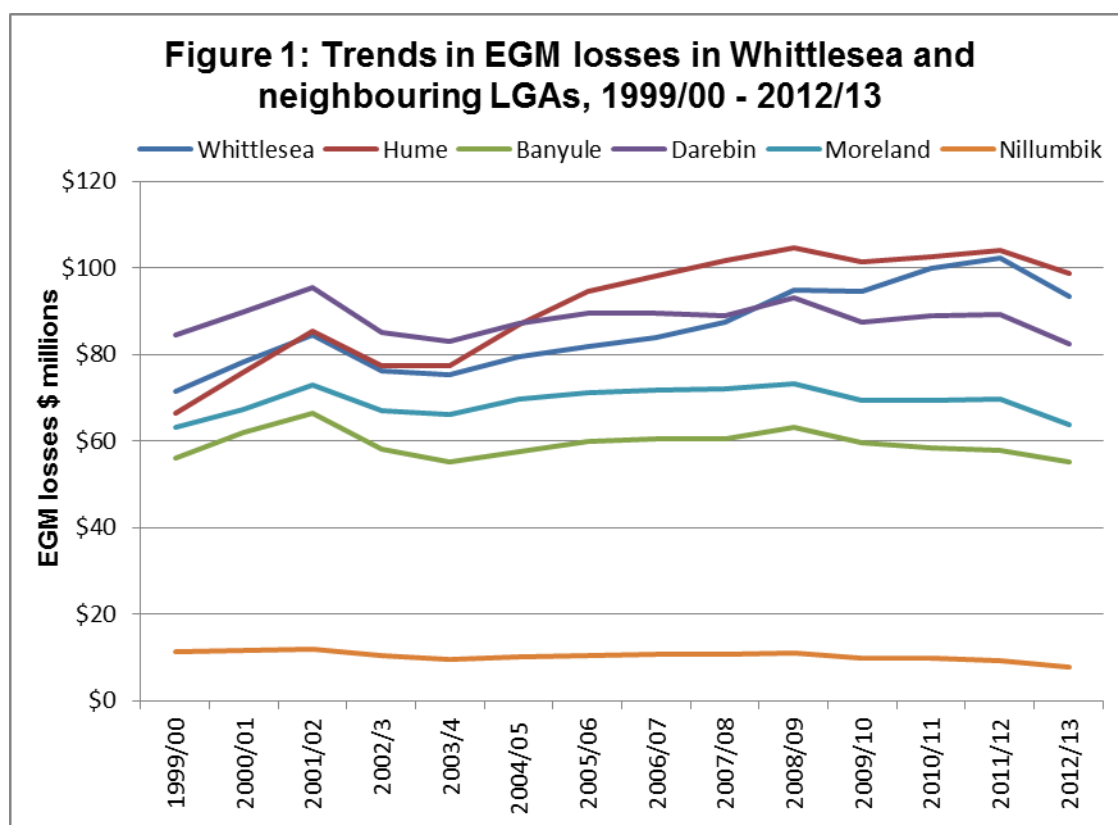
**Table 1: Overview of key EGM statistics by metropolitan LGAs**

LGA	EGMs in 2013		Net EGM losses in 2012/13		
	Total No.	No. per 1,000 adults	Total losses	Per adult capita	% change in losses 2011/12 – 2012/13
Banyule	651	6.5	\$55,300,000	\$555	-4.4%
Boroondara	205	1.5	\$19,100,000	\$141	-5.2%
Brimbank	948	6.3	\$137,600,000	\$917	-5.5%
Cardinia	225	3.8	\$20,600,000	\$348	-5.8%
Casey	899	4.6	\$114,500,000	\$585	-9.0%
Darebin	963	8.2	\$82,400,000	\$703	-7.7%
Frankston	534	5.2	\$62,200,000	\$607	-12.7%
Glen Eira	774	7.0	\$71,100,000	\$640	-4.4%
Greater Dandenong	952	8.7	\$109,300,000	\$996	-7.0%
Hobson's Bay	579	8.3	\$47,900,000	\$689	-9.1%
Hume	762	5.8	\$98,800,000	\$755	-5.0%
Kingston	944	7.9	\$79,000,000	\$658	-8.7%
Knox	845	6.9	\$74,900,000	\$611	-12.5%
Manningham	617	6.4	\$58,300,000	\$605	-10.7%
Maribyrnong	439	7.1	\$52,800,000	\$858	-5.9%
Maroondah	770	9.1	\$62,400,000	\$735	-6.5%
Melbourne	779	8.2	\$71,000,000	\$745	1.0%
Melton	487	5.7	\$53,600,000	\$628	-5.2%
Monash	990	6.7	\$112,700,000	\$763	-7.9%
Moonee Valley	746	8.1	\$71,500,000	\$773	-8.2%
Moreland	765	6.1	\$63,700,000	\$509	-8.5%
Mornington Peninsula	826	6.9	\$78,900,000	\$660	-5.6%

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Nillumbik	97	2.0	\$7,800,000	\$160	-16.6%
Port Phillip	373	4.2	\$24,500,000	\$278	-11.1%
Stonnington	295	3.4	\$21,400,000	\$246	-8.9%
Whitehorse	554	4.4	\$50,800,000	\$401	-7.7%
<b>Whittlesea</b>	<b>621</b>	<b>4.8</b>	<b>\$93,200,000</b>	<b>\$727</b>	<b>-8.8%</b>
Wyndham	654	5.1	\$87,800,000	\$680	-0.8%
Yarra	308	4.3	\$29,700,000	\$416	-5.6%
<i>Victoria</i>	<i>26,665</i>	<i>6.1</i>	<i>\$2,483,800,000</i>	<i>\$568</i>	<i>-7.4%</i>

Figure 1 illustrates the trends over time in the total amount of EGM losses across the City of Whittlesea municipality and neighbouring LGAs. It shows a consistent yearly increase in EGM losses within the City of Whittlesea municipality until 2011/12, with the most recent year recording a decrease in the amount lost to EGMs. A likely reason for the consistent drop seen across all LGAs in 2012/13 was the introduction of a range of policy requirements for venues such as signage and new restrictions for ATMs and EFTPOS withdrawal limits within gaming venues (VCGLR News, Winter 2012). The impact of these new policies, particularly relating to ATMs and cash withdrawals, is expected to be short-lived with a reversal in trends in coming months as gaming patrons adapt to the new policies. Overall, Hume LGA has recorded higher gambling losses than the City of Whittlesea municipality over the 14 year time period, however over the past three years, the amounts lost across the two municipalities has been very similar.

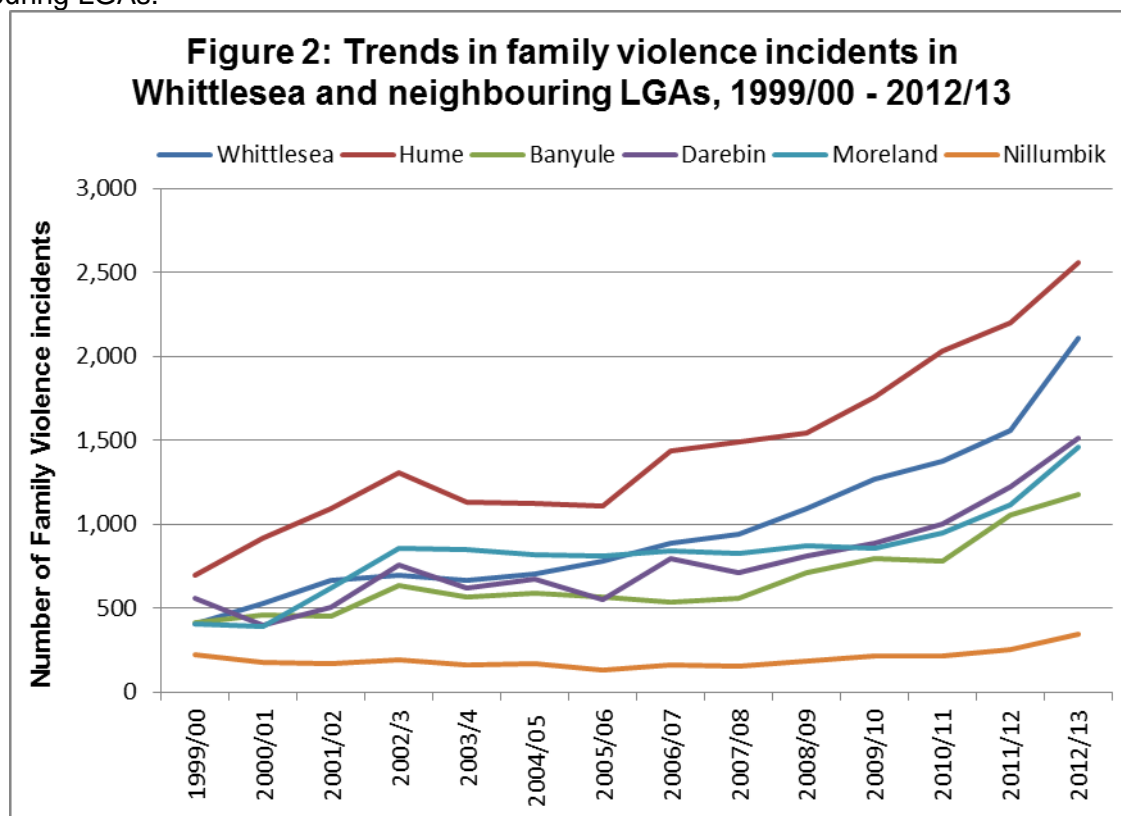


### Family violence incidents

Overall, the number of recorded family violence incidents has increased significantly in the City of Whittlesea municipality from a low of 405 incidents in 1999/00 to 2,110 incidents in 2012/13 (refer to Figure 2). This equates to an overall increase of 421 percent over the 14 year period. When examined from the perspective of the rate of police call outs for family violence incidents per 100,000 population, this has increased by 249 percent over the same time period from 358 incidents per 100,000 to 1,249 incidents per 100,000 people. This is the second highest across all metropolitan LGAs, behind only

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Frankston (349%) and is considerably higher than the state average of 158 percent as well as all neighbouring LGAs.



Within the North-West Metropolitan region, the City of Whittlesea runs second only to the Hume LGA in the number of total recorded family violence incidents per year. Overall, the City of Whittlesea was ranked fifth for the number of recorded family violence incidents out of all metropolitan LGAs in Victoria in 2012/13 and sixth when the data was examined in terms of population rates, behind other LGAs with similar levels of social disadvantage (Frankston, Greater Dandenong, Cardinia, Hume and Casey).

**Table 2: Overview of key family violence statistics by metropolitan LGAs**

LGA	Incidence of family violence in 2012/13		Average no. of incidents per 100,000 adults	% change in number of family violence incidents per 100,000 adults	
	Total no. of incidents	Incidents per 100,000 adults	1999/00 – 2012/13	% change 2011/12 – 2012/13	% change 1999/00 – 2012/13
Banyule	1,177	955	551	11.04%	174%
Boroondara	587	349	265	11.50%	75%
Brimbank	1,940	1,004	688	3.50%	192%
Cardinia	1,186	1,486	817	15.28%	171%
Casey	3,461	1,297	822	7.10%	143%
Darebin	1,509	1,047	578	22.10%	140%
Frankston	2,292	1,747	1,069	17.32%	359%
Glen Eira	719	517	383	17.76%	129%
Greater Dandenong	2,244	1,547	856	21.42%	183%
Hobson's Bay	811	921	655	32.13%	92%
Hume	2,555	1,429	930	13.86%	165%
Kingston	1,274	852	594	14.20%	81%
Knox	1,591	1,033	614	16.59%	139%
Manningham	574	490	339	15.02%	87%

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Maribyrnong	765	997	621	31.87%	111%
Maroondah	886	821	514	23.45%	114%
Melbourne	1,056	999	606	19.49%	103%
Melton	1,429	1,217	703	4.55%	124%
Monash	1,140	632	352	22.48%	115%
Moonee Valley	936	826	545	27.86%	112%
Moreland	1,462	931	574	29.30%	212%
Mornington Peninsula	1,658	1,101	615	35.59%	184%
Nillumbik	342	547	319	37.09%	48%
Port Phillip	835	831	604	14.77%	38%
Stonnington	696	690	481	32.18%	66%
Whitehorse	827	520	384	18.45%	69%
<b>Whittlesea</b>	<b>2,110</b>	<b>1,249</b>	<b>704</b>	<b>28.36%</b>	<b>249%</b>
Wyndham	2,009	1,124	621	22.57%	149%
Yarra	706	875	577	17.92%	98%
Victoria	60,869	1,071	631	19.50%	158%

### Correlation between EGM accessibility and losses and the incidence of family violence

Table 3 pulls together the key EGM and family violence statistics for the financial year of 2012/13 and ranks each metropolitan municipality across each variable. It is interesting to note that while the City of Whittlesea ranks as 17<sup>th</sup> out of 29 metropolitan LGAs for total number of EGMs, it ranks 9<sup>th</sup> highest for EGM losses per capita and is 5<sup>th</sup> highest in terms of total number of family violence incidents reported to police in 2012/13. By comparison, neighbouring municipality Banyule ranks 16<sup>th</sup> in terms of total number of EGMs, 21<sup>st</sup> for EGM losses per capita and 15<sup>th</sup> for number of family violence incidents and Hume ranks 13<sup>th</sup>, 6<sup>th</sup> and 2<sup>nd</sup> respectively.

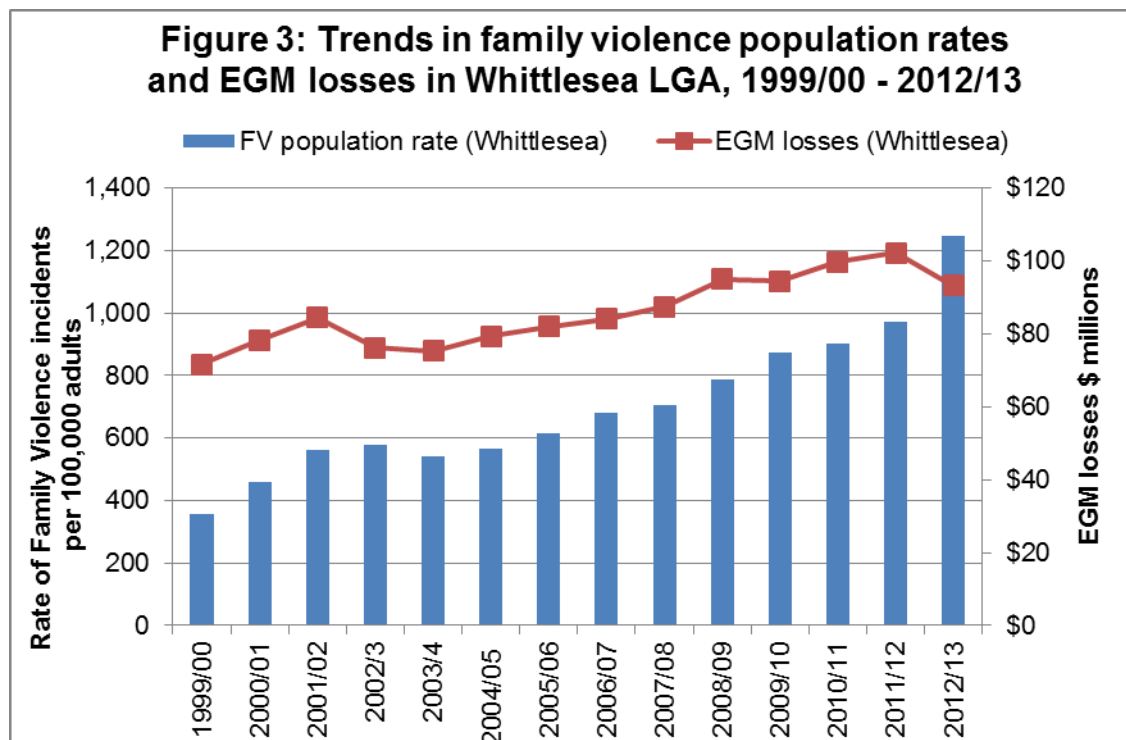
**Table 3: Comparison of number of EGMs and losses and number of family violence incidents by metropolitan LGA, 2012/13**

LGA	EGMs in 2012		Losses to EGMs per adult 2012/13		Family violence incidents 2012/13	
	Number	LGA rank	Amount lost	LGA rank	Number	LGA rank
Banyule	651	16	\$555	21	1,177	15
Boroondara	205	28	\$141	29	587	27
Brimbank	948	4	\$917	2	1,940	7
Cardinia	225	27	\$348	25	1,186	14
Casey	899	6	\$585	20	3,461	1
Darebin	963	2	\$703	10	1,509	10
Frankston	534	21	\$607	18	2,292	3
Glen Eira	774	10	\$640	15	719	24
Greater Dandenong	952	3	\$996	1	2,244	4
Hobson's Bay	579	19	\$689	11	811	22
Hume	762	13	\$755	6	2,555	2
Kingston	944	5	\$658	14	1,274	13
Knox	845	7	\$611	17	1,591	9
Manningham	617	18	\$605	19	574	28
Maribyrnong	439	23	\$858	3	765	23
Maroondah	770	11	\$735	8	886	19
Melbourne	779	9	\$745	7	1,056	17
Melton	487	22	\$628	16	1,429	12
Monash	990	1	\$763	5	1,140	16

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Moonee Valley	746	14	\$773	4	936	18
Moreland	765	12	\$509	22	1,462	11
Mornington Peninsula	826	8	\$660	13	1,658	8
Nillumbik	97	29	\$160	28	342	29
Port Phillip	373	24	\$278	26	835	20
Stonnington	295	26	\$246	27	696	26
Whitehorse	554	20	\$401	24	827	21
<b>Whittlesea</b>	<b>621</b>	<b>17</b>	<b>\$727</b>	<b>9</b>	<b>2,110</b>	<b>5</b>
Wyndham	654	15	\$680	12	2,009	6
Yarra	308	25	\$416	23	706	25
<i>Victoria</i>	<i>26,665</i>	<i>-----</i>	<i>\$568</i>	<i>-----</i>	<i>60,869</i>	<i>-----</i>

Figure 3 illustrates the number of family violence incidents per 100,000 adults in the City of Whittlesea compared to the total losses across the municipality to EGMs between 1999/00 and 2012/13. It demonstrates a similar pattern with increases in gambling losses and family violence incidents between 1999/00 and 2001/02, then a period of relative stability for both variables until 2004/05, followed by consistent yearly increases in gambling losses and family violence incidents through to 2011/12. The main point of difference between the two variables occurred in 2012/13 with a significant increase in recorded family violence incidents but a decrease in the net EGM losses in the municipality. However, the likely reason for the decrease in EGM losses was discussed on page 3 and it is expected that there will be a reversal in this trend over the subsequent months.



To further understand the interaction between the incidence of family violence and EGM losses, a correlation analysis was undertaken to examine whether there is a relationship between the two variables. A correlation coefficient can vary between -1.0 (a perfect negative relationship) and +1.0 (a perfect positive relationship), with a coefficient of zero meaning there is no relationship between the two variables of interest (in this case, family violence incidents and EGM losses).

The analysis of the relationship between family violence incidents and EGM losses between 1999/00 and 2012/13 revealed a high positive correlation coefficient of 0.82034 for the City of Whittlesea. When compared to other metropolitan municipalities, the City of Whittlesea ranked as one of the top five LGAs in terms of the strength of the positive correlation between the two variables. This suggests that on

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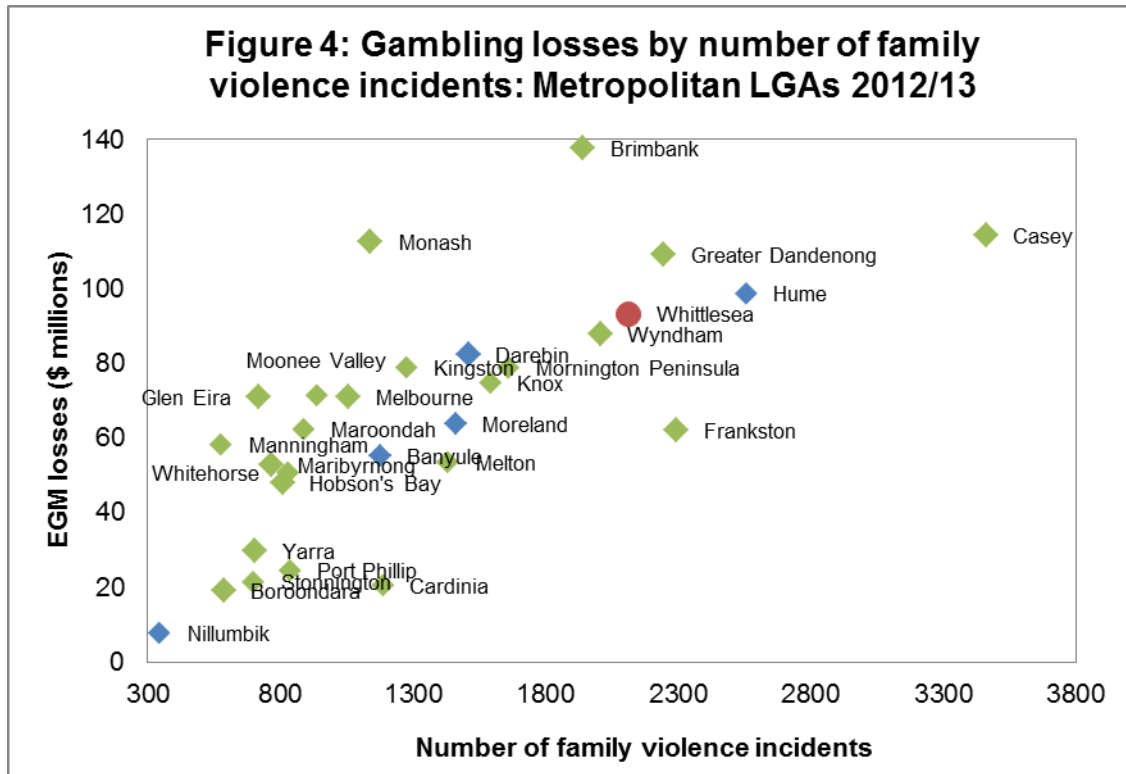
average when there is an increase in family violence incidents in the municipality, there is a corresponding increase in the amount of money lost to EGMs by residents within the municipality. However, as can be seen in the table below, the overall strong, positive correlation between the incidence of family violence and gambling losses which was identified for the City of Whittlesea was not found consistently across all LGAs in metropolitan Melbourne.

**Table 4: Comparison of correlation between family violence incidents and EGM losses by metropolitan LGA, 1999/00 – 2012/13**

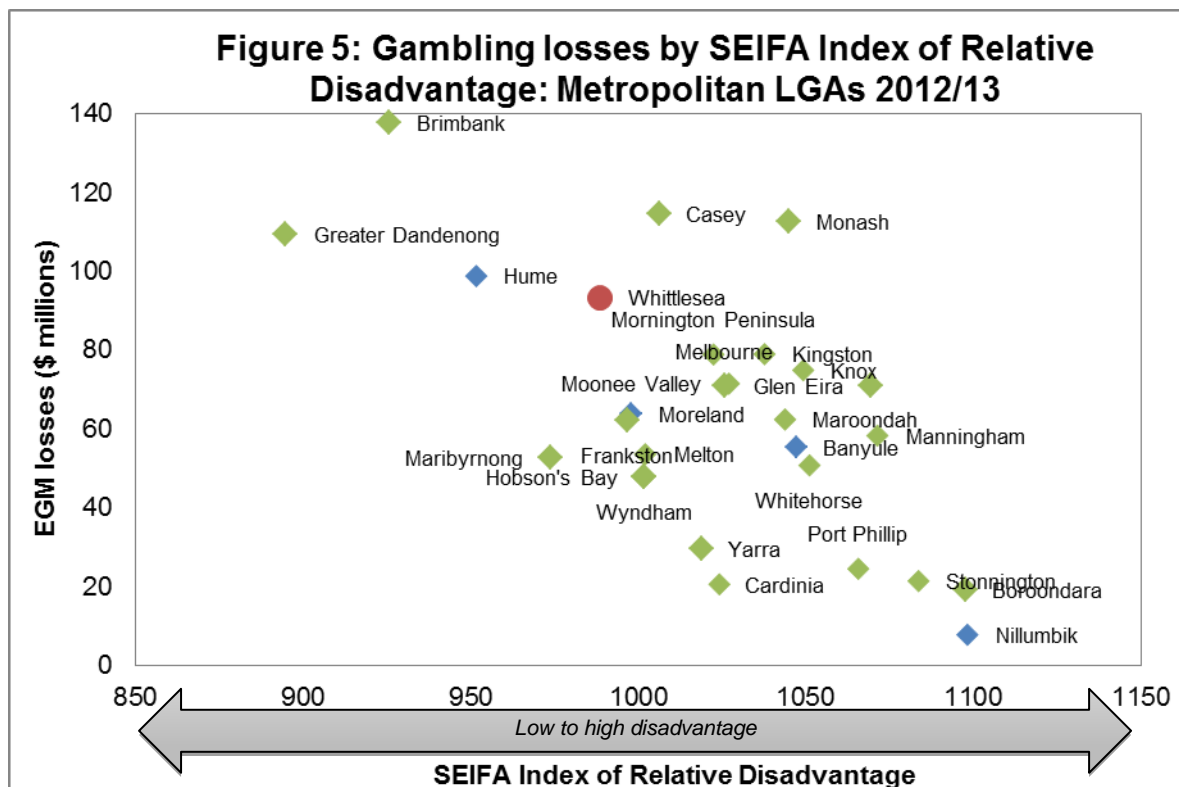
LGA	Correlation Coefficient	LGAs ranked by correlation
Banyule	-0.38	22
Boroondara	-0.20	15
Brimbank	+0.92	2
Cardinia	+0.86	4
Casey	+0.82	5
Darebin	-0.32	18
Frankston	+0.49	9
Glen Eira	-0.32	18
Greater Dandenong	+0.56	7
Hobson's Bay	+0.15	13
Hume	+0.75	6
Kingston	-0.36	20
Knox	-0.64	26
Manningham	+0.29	11
Maribyrnong	-0.40	23
Maroondah	+0.20	12
Melbourne	-0.31	17
Melton	+0.94	1
Monash	-0.50	24
Moonee Valley	-0.26	16
Moreland	-0.06	14
Mornington Peninsula	+0.44	10
Nillumbik	-0.70	27
Port Phillip	-0.77	28
Stonnington	-0.37	21
Whitehorse	-0.65	25
Whittlesea	+0.82	5
Wyndham	+0.87	3
Yarra	-0.33	19

Figure 4 graphs the correlation between the incidence of family violence and gambling losses across all metropolitan LGAs. The LGAs located in the upper right quadrant of the chart are those where there appears to be a stronger correlation between the incidence of family violence and EGM losses. The City of Whittlesea appears in this quadrant along with LGAs with similar levels of social disadvantage (e.g. Casey, Hume, Greater Dandenong, Brimbank and Wyndham). By comparison, there were a significant number of LGAs where there did not appear to be a strong relationship between the incidence of family violence and gambling losses.

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However it is important to note that while a strong correlation was revealed, there may be other underlying factors which may also be contributing to this strong relationship, such as generally high levels of social and financial disadvantage experienced in the Whittlesea LGA. This appears to be the case with a similarly strong correlation between a low SEIFA rating and higher EGM losses. Figure 5 shows that the City of Whittlesea had the fifth lowest SEIFA score out of the metropolitan LGAs and recorded the sixth highest EGM losses in 2012/13. This places the City of Whittlesea behind only Greater Dandenong, Brimbank, Hume and Maribyrnong LGAs.





## Family Violence and Gaming statistical analysis for Whittlesea Community Connections

### Conclusion

Compared with other metropolitan LGAs, the City of Whittlesea generally has a lower number of EGMs per capita but residents are losing greater amounts of money to EGMs per year compared with many municipalities that actually have more EGMs available to play. This suggests that City of Whittlesea residents are gambling at higher rates or that problem gamblers within the municipality are losing significantly higher amounts of money to EGMs compared with other LGAs. The municipality was also ranked fifth out of all metropolitan municipalities in terms of recorded family violence incidents and sixth when examining family violence incidents per capita.

The analysis is indicative of a correlation between the incidence of family violence and losses to EGMs within the City of Whittlesea. While the correlation was strong in the City of Whittlesea, the extent of the relationship varied significantly across metropolitan LGAs, particularly when compared with neighbouring LGAs. The similarly strong correlation between gambling losses and SEIFA scores suggests it is likely that there are other factors which could be related or driving increasing trends in family violence and EGM losses. For example, the SEIFA data reveals a high level of social disadvantage in the City of Whittlesea as well as in other LGAs who also recorded similarly high correlations between family violence incidents and EGM losses (e.g. Brimbank and Casey).

If you have any questions about this report, please contact Senior Research Officer  
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