

NORTH EAST Regional Road Safety Resource

Project Report: 19

Motorcycle KSI Collisions 2006-08: Cleveland Overview

**Produced January 2010
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Introduction

This report has been produced by the NE Regional Road Safety Resource as an overview of KSI motorcycle collisions in the Cleveland area over the last 3 years. The data used to produce this report is based on the project database of Stats 19 provided by Cleveland, Durham, and Northumbria police forces.

Profile of KSI Motorcycle Collisions 2006-08

In Cleveland motorcycle collisions, where someone was killed or seriously injured (KSI), account for 23% of the areas total KSI collisions. This is inline with the regional trend for KSI motorcycle collisions. Figure 1 shows that KSI motorcycle collisions in Cleveland have remained fairly constant over the past 3 years, although 2007 showed a good reduction.

Figure 1: KSI Motorcycle Collisions in Cleveland 2006-08

| | 2006 | 2007 | 2008 | Total |
|-----------------------|------|------|------|------------|
| KSI Collisions | 47 | 42 | 48 | 137 |

These KSI collisions account for 147 KSI casualties in Cleveland during 2006-08, with 93% of these casualties being the motorcycle rider or passenger themselves who are injured. This shows that motorcycle riders and passengers are particularly vulnerable when involved in a road traffic collision.

Figure 2: KSI Casualties Resulting From Collisions Involving A Motorcycle 2006-08

| | 2006 | 2007 | 2008 | Total |
|-----------------------|------|------|------|------------|
| KSI Casualties | 51 | 46 | 50 | 147 |

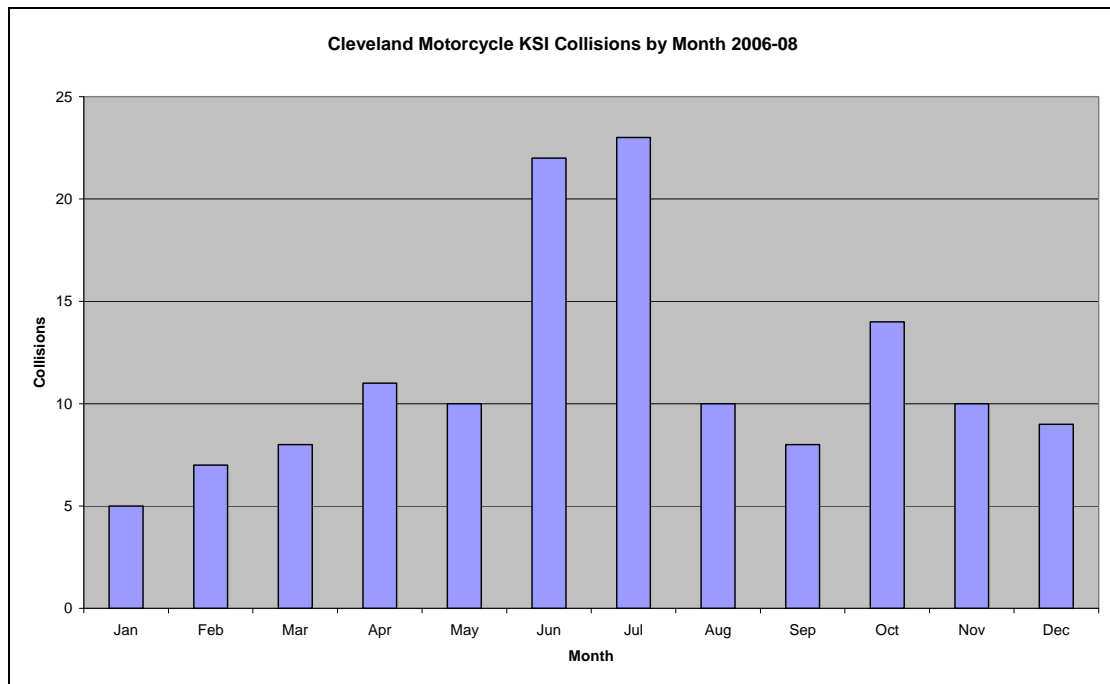
Figure 3: KSI Motorcycle Rider/Passenger Casualties 2006-08

| | 2006 | 2007 | 2008 | Total |
|---------------------------------------|------|------|------|------------|
| KSI Motorcycle Rider/Passenger | 47 | 44 | 46 | 137 |

Month

KSI motorcycle collisions in Cleveland peak during the summer months; with June and July accounting for a third of all KSI motorcycle collisions. This follows the regional trend; however, the proportion during these months is lower than that seen in Cleveland.

Figure 4: KSI Motorcycle Collisions by Month 2006-08

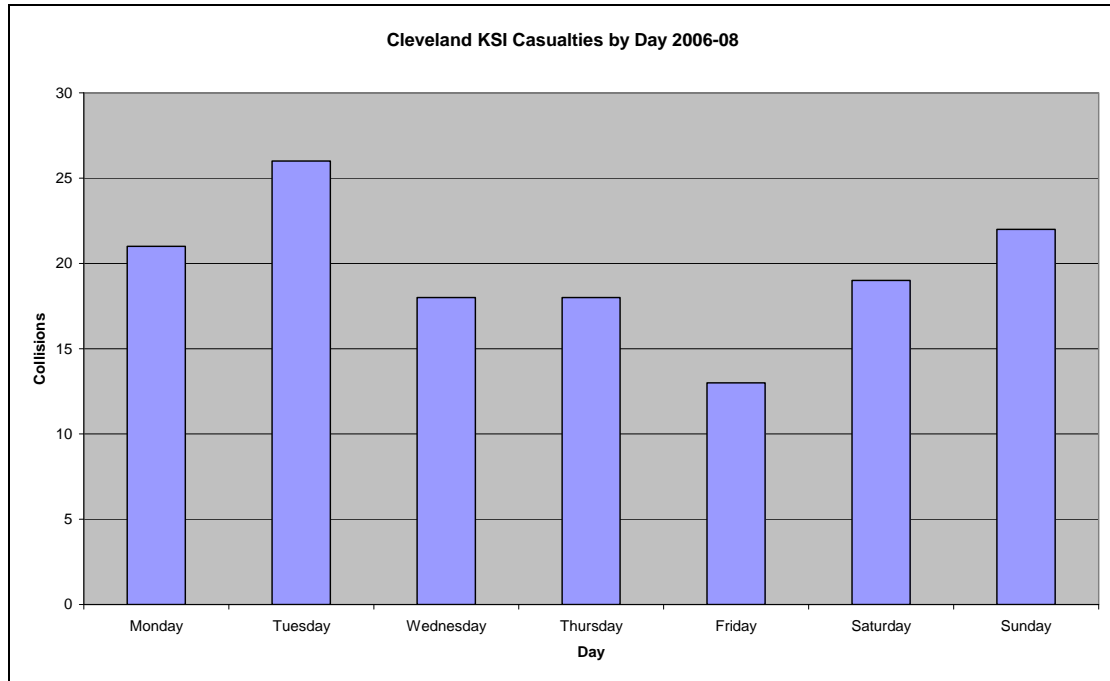


One factor that could possibly explain the peak in KSI motorcycle collisions during the summer is the increased motorcycle traffic on the roads during this time. However, the collision peak appears to be fairly isolated to these two months and historically motorcycle traffic starts to increase from March/April onwards. Therefore increased motorcycle traffic is unlikely to be the sole main contributory factor to the summer increase in motorcycle collisions.

Day

Looking at the day of the week on which KSI motorcycle collisions occur it shows that collisions are fairly consistent throughout the week apart from Friday which shows lower levels.

Figure 5: KSI Motorcycle Collisions by Day 2006-08

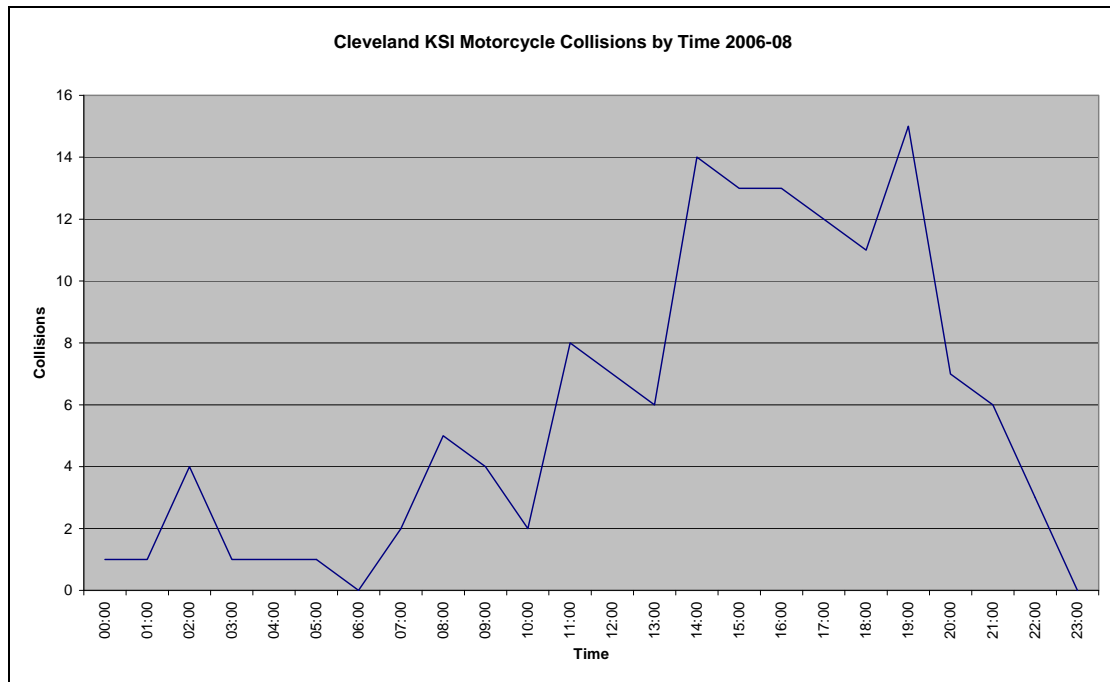


KSI motorcycle collisions in Cleveland show a different pattern to the trend seen in the NE region as a whole. In terms of the NE region, Sunday shows a significant peak in motorcycle collisions; this is not seen in Cleveland. This could be due to the fact that Sunday is traditionally seen as a day for leisure riding, particularly with riders who own larger sized performance motorcycles. Cleveland does not have as many long winding rural routes as its neighbouring areas and so leisure riding within Cleveland is likely to be significantly less than other areas in the NE region. The collision data shows that a significant proportion of Cleveland riders are involved in a KSI collision within other areas; in particular North Yorkshire which has more roads used for leisure riding. Very few riders who live in neighbouring areas collide within the Cleveland boundaries.

Time of Day

KSI motorcycle collisions in Cleveland appear to be an issue in the afternoon and early evening. 57% of collisions occur between 2pm and 8pm and there appears to be no link with peak commuting times. This trend is also seen in the regional KSI motorcycle collisions.

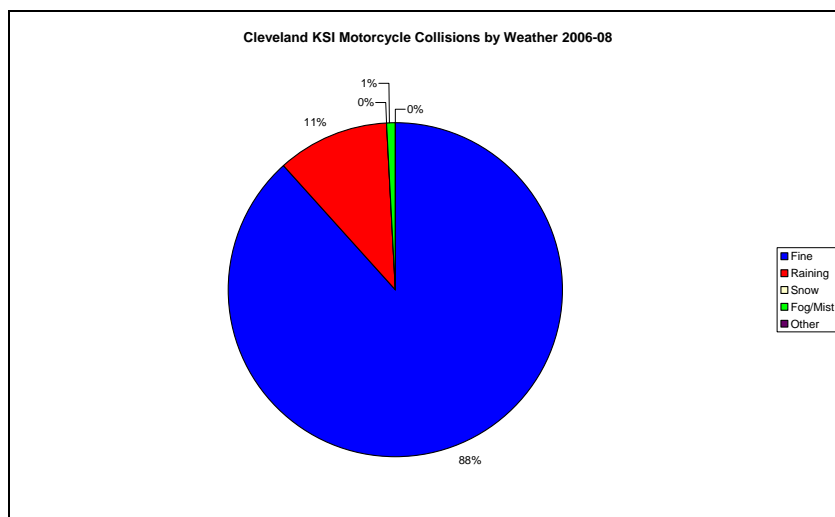
Figure 6: KSI Motorcycle Collisions by Time 2006-08



Weather

88% of KSI motorcycle collisions in Cleveland occur in Fine/Dry conditions, which is inline with the regional trend.

Figure 7: KSI Motorcycle Collisions by Weather 2006-08



Road Class

KSI motorcycle collisions in Cleveland are most common on 'A' roads and Unclassified roads. This is not surprising as 'A' class roads have the highest traffic flows, and the road network is mostly made up of Unclassified roads. Therefore on 'A' roads there is more vehicle interactions which increases the likelihood of a collision taking place; and since the majority of the network is made up of Unclassified roads there is more chance that a rider will be travelling upon one at any given time in his/her journey.

Figure 8a: KSI Motorcycle Collisions by Road Type 2006-08

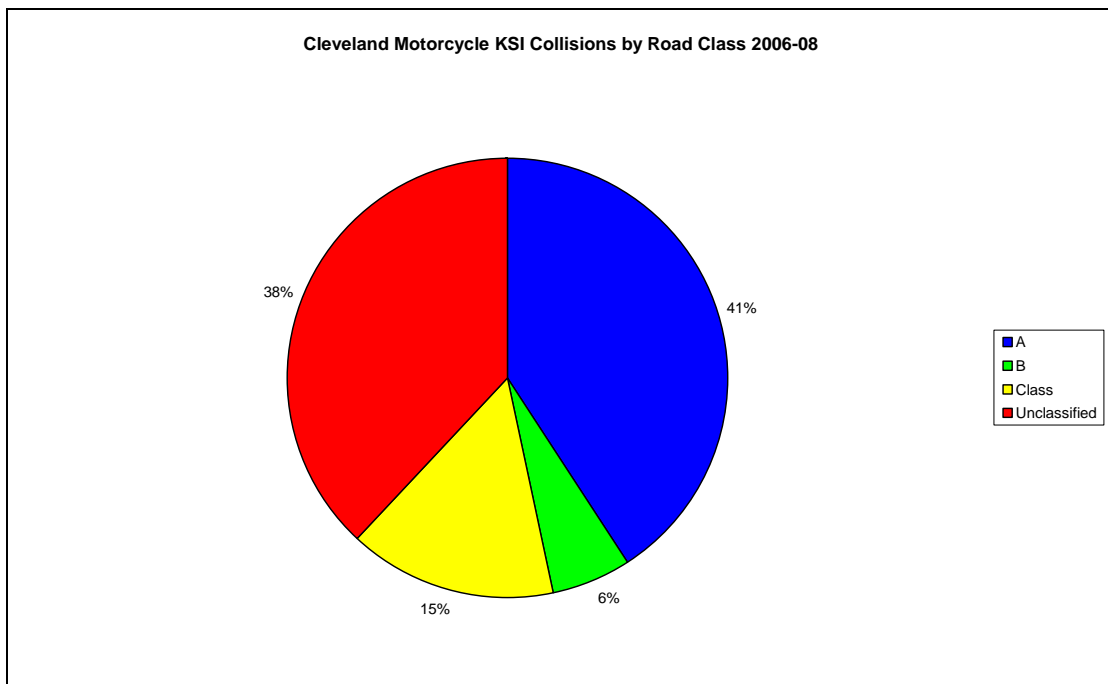


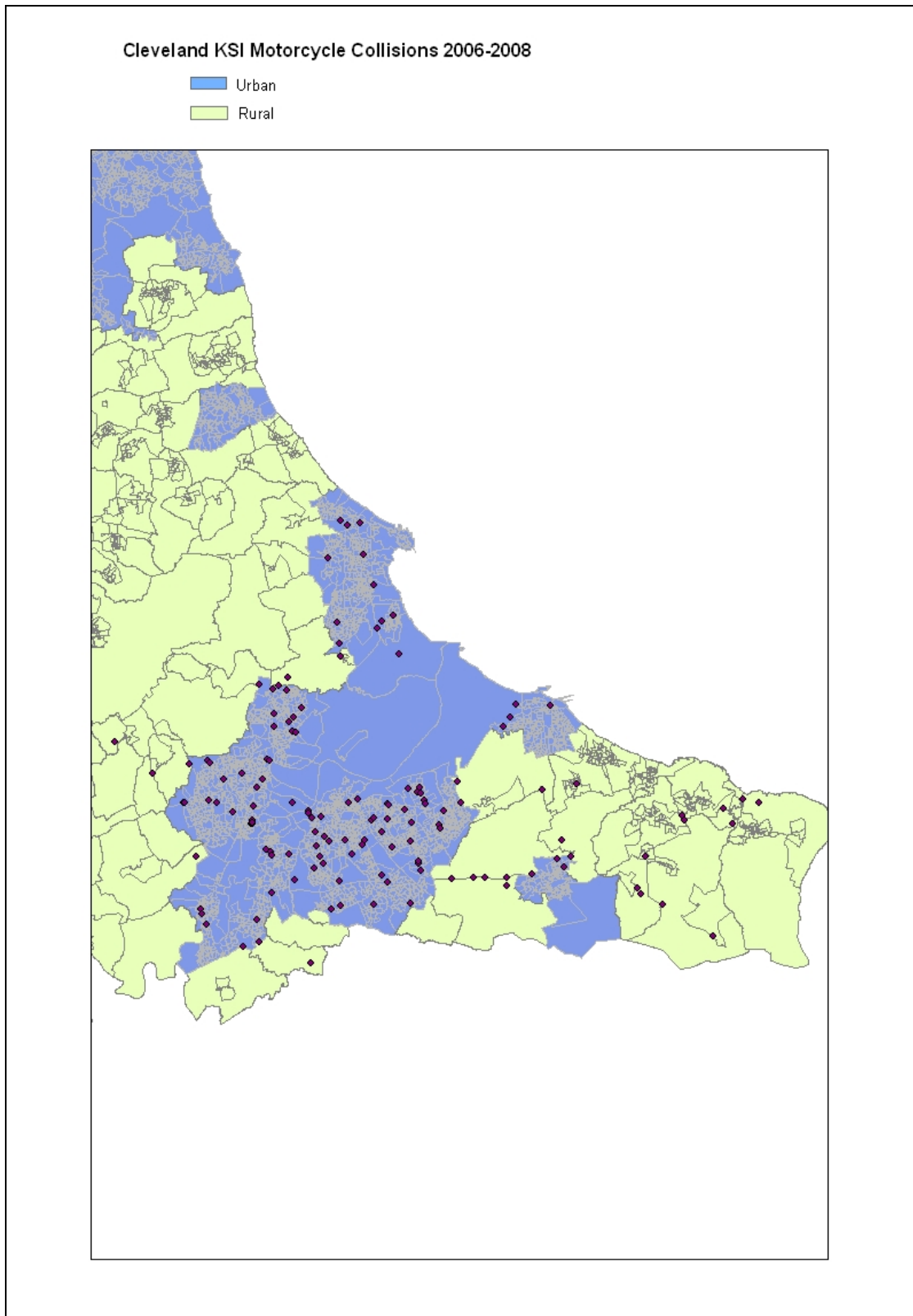
Figure 8b shows the percentage of the Cleveland road network that each road class makes up. This gives an idea of the over representation of collisions on 'A' class roads in terms of purely road length.

Figure 8b: Cleveland Road Network by Road Class 2009

| Road Class | % of Cleveland Road Network |
|--------------|-----------------------------|
| A | 9% |
| B | 2% |
| C | 12% |
| Unclassified | 77% |

Figure 9 shows that KSI motorcycle collisions are very much an urban issue in Cleveland. The vast majority of collisions occur in the urban areas of Stockton-on-Tees and Middlesbrough. What rural collisions there are take place in the east of the area with Redcar & Cleveland.

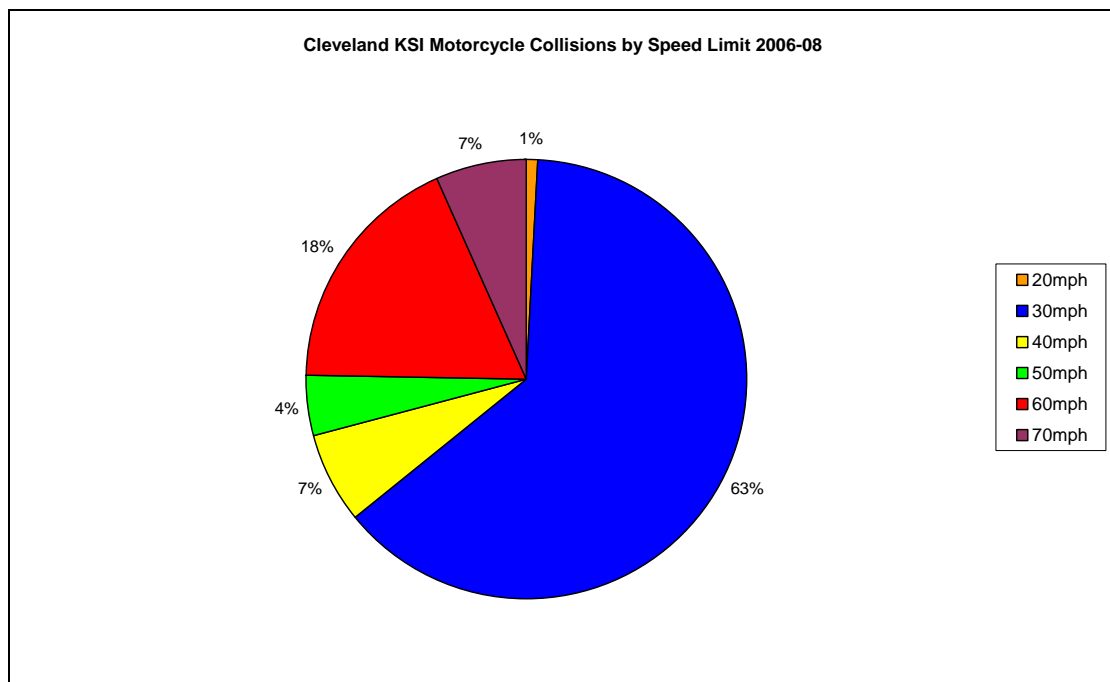
Figure 9: KSI Motorcycle Collisions – Urban/Rural 2006-08



Speed Limit

The majority (63%) of KSI motorcycle collisions in the Cleveland area occur within 30mph limits. Probably not surprising since 30mph roads make up a large part of the road network. What is slightly surprising is that most severe motorcycle collisions occur within the lower speed limits and not in the faster ones where motorcyclists are often assumed to be more at risk and vulnerable to serious injury.

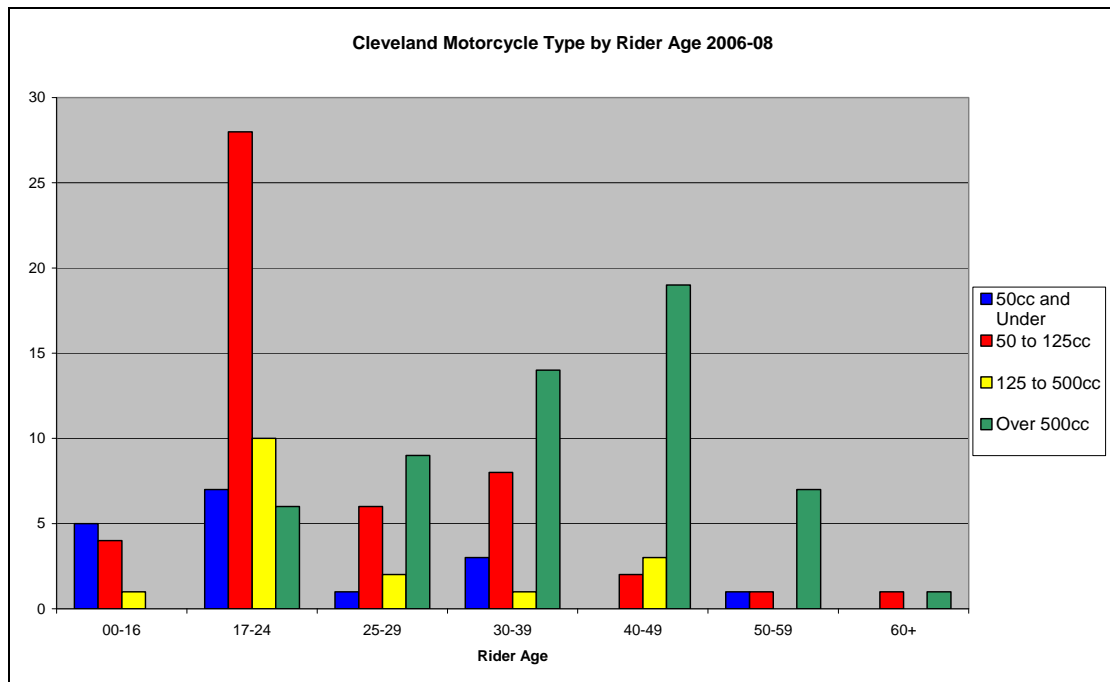
Figure 10: KSI Motorcycle Collisions by Speed Limit 2006-08



Motorcycle Type & Rider Age

The Stats 19 data splits the vehicle category 'motorcycle' into several different classes based on the engine size of the vehicle. Motorcycle licensing is progressive based upon rider age and experience, i.e. a 17 year old can not legal ride a 500cc motorcycle. Therefore there should be some correlation in motorcycle collisions between rider age and motorcycle size. Figure 10 shows motorcycle size by rider age involved in Cleveland motorcycle collisions. The data clearly shows that there is correlation between rider age and motorcycle size. The younger age ranges have a higher concentration of collisions involving smaller motorcycles, and as rider age increases so too do the collisions involving 'Over 500cc' motorcycles (up to the age of 49).

Figure 11: Motorcycle Type & Rider Age Involved in Cleveland KSI Collisions 2006-08



Contributory Factors

Analysis of the contributory factors associated with motorcycle collisions in Cleveland may allow road safety practitioners to better understand where the blame for the collision may lie. The top ten most recorded contributory factors in KSI motorcycle collisions in Cleveland are:

1. Driver failed to look properly (other driver)
2. Loss of control (motorcyclist)
3. Careless/reckless/in a hurry (motorcyclist)
4. Poor turn or manoeuvre (motorcyclist & other driver)
5. Failed to judge other persons path or speed (other driver)
6. Inexperienced rider (motorcyclist)
7. Travelling too fast for conditions (motorcyclist)
8. Aggressive driving (motorcyclist)
9. Impaired by alcohol (motorcyclist & other driver)
10. Exceeding the speed limit (motorcyclist)

From the analysis of the contributory factors it is clear to see that collision blame can lie with both the motorcyclist and other road users. In terms of the motorcyclist there would appear to be issues with rider skills and appropriate speed. Poor turns and inexperience along with speeding and aggressive driving by motorcyclists is causing KSI collisions on Cleveland roads. When the other driver is to blame for a collision there would appear to be an issue with the visibility of the motorcyclist and also driver judgment in general.

Headline Notes

- 23% of Cleveland's KSI collisions involve a motorcycle.
- 93% of casualties injured in KSI motorcycle collisions are the motorcycle rider/passenger.
- KSI motorcycle collisions peak in June and July.
- Motorcycle collisions are highest in the afternoon and early evenings.
- 88% occur in 'Fine/Dry' conditions.
- Collisions are highest on 'A' class roads.
- KSI motorcycle collisions are very much an urban issue in Cleveland, with the majority of collisions occurring within 30mph limits.
- Smaller motorcycles are related to younger riders; larger motorcycles are related to older riders.
- There are issues with a lack of rider skills and aggressive/inappropriate riding in KSI collisions.