

ATTACHMENT 1

**CSIRO MATHEMATICAL AND
INFORMATION SCIENCES (CMIS) –
THE IDENTIFICATION OF TYPICAL DRIVE
CYCLES FOR DIESEL VEHICLES**

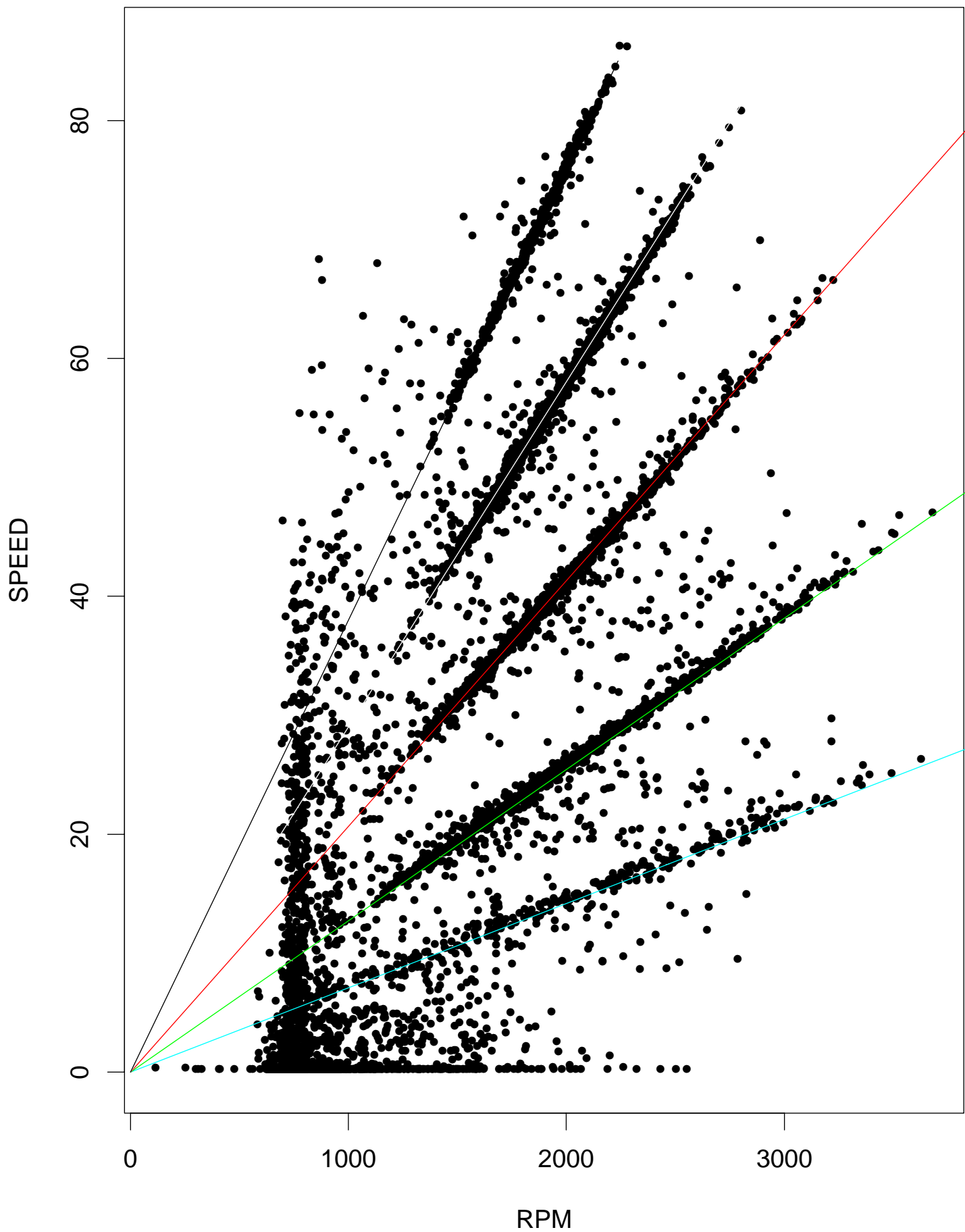
**Proposed Diesel Vehicle Emissions
National Environment Protection Measure
Preparatory Work**

**In-Service Emissions Performance
Phase 1: Urban Drive Cycle Development**



Appendix I - Figure 1. Scatterplot of Speed vs RPM

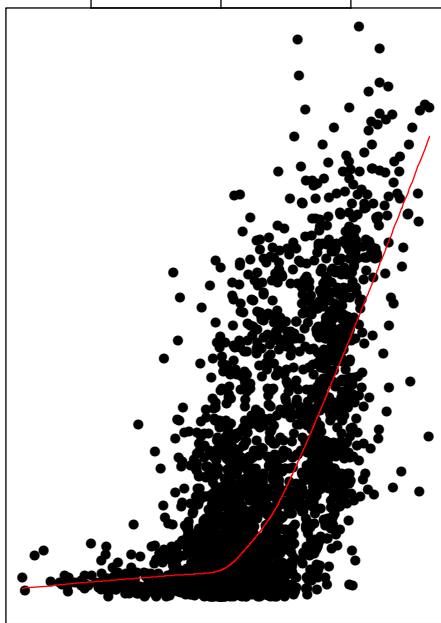
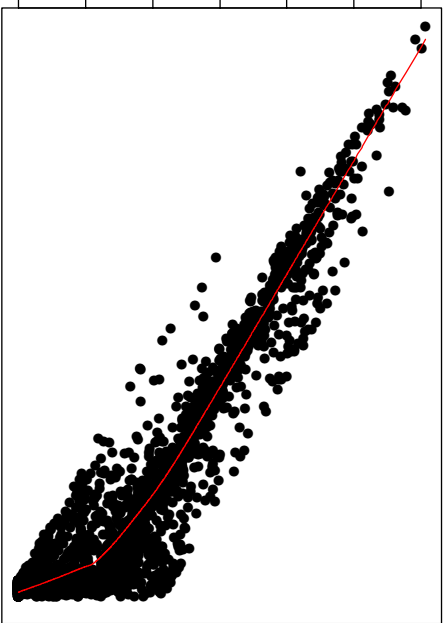
Fitted lines indicate possible gears



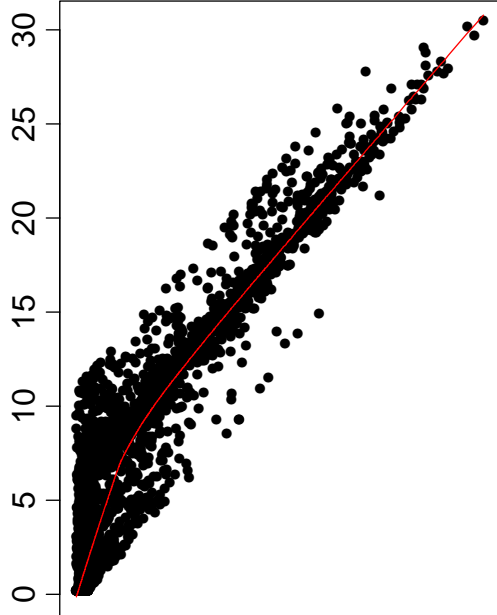
Appendix I
Figure 2

V1 Gear 1
RPM

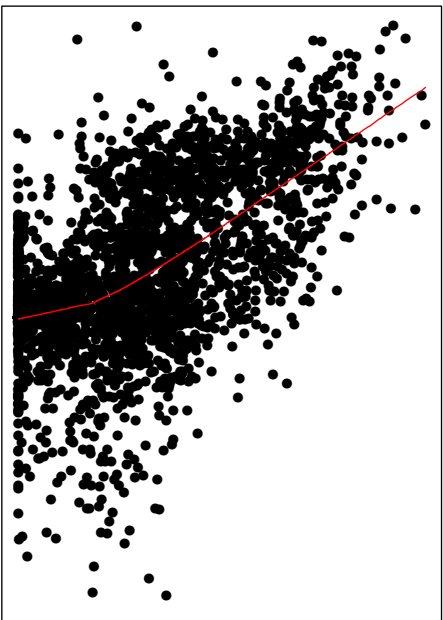
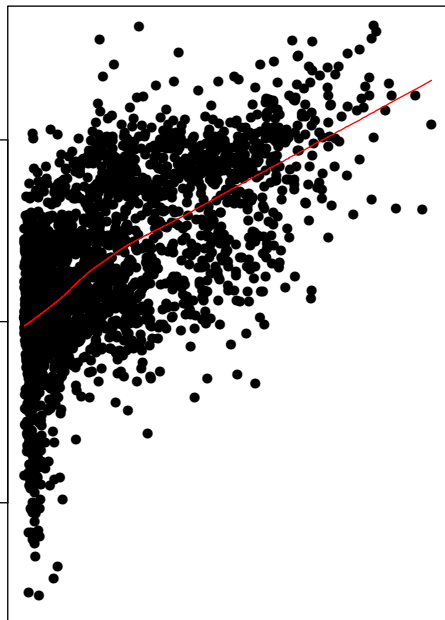
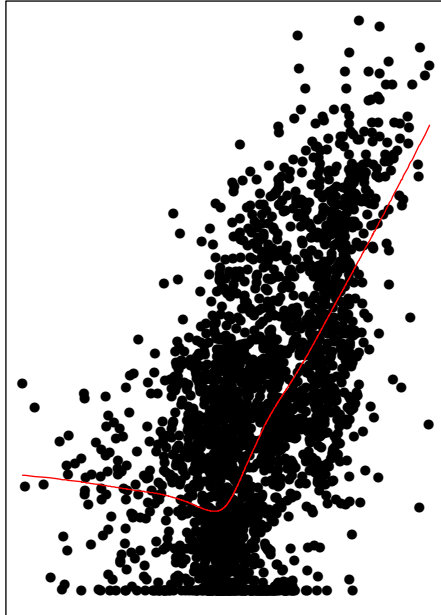
0 5 10 15 20 25 30



1000 2000 3000 4000



V1 Gear 1
SPEED



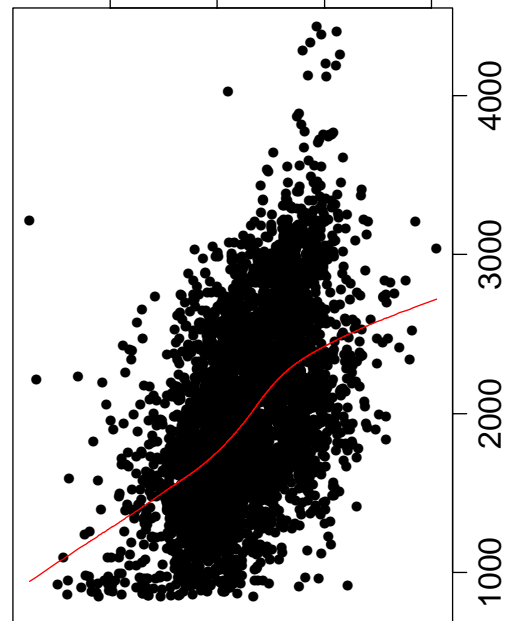
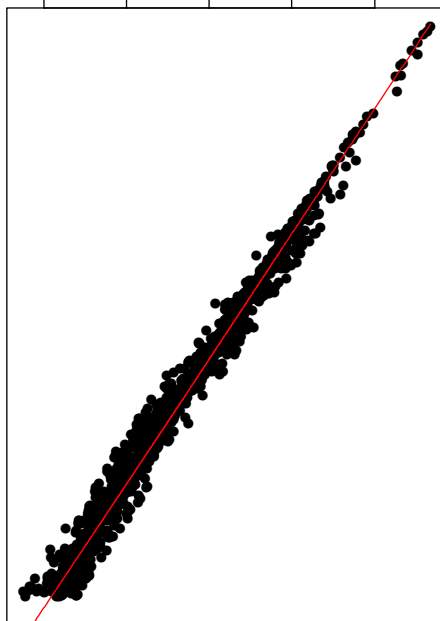
V1 Gear 1
ACCELERATION

-5 0 5

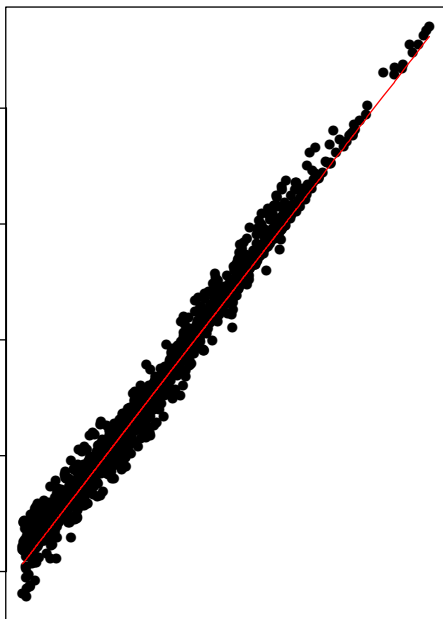
Appendix I
Figure 3

V1 Gear 2
RPM

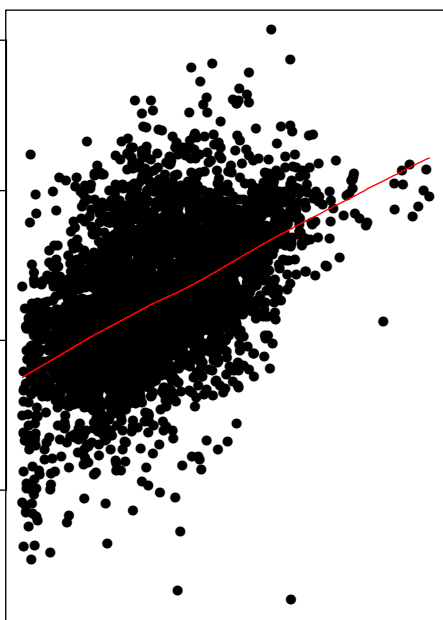
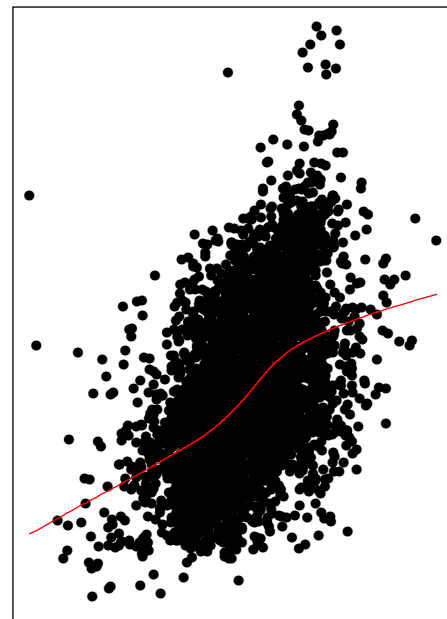
10 20 30 40 50



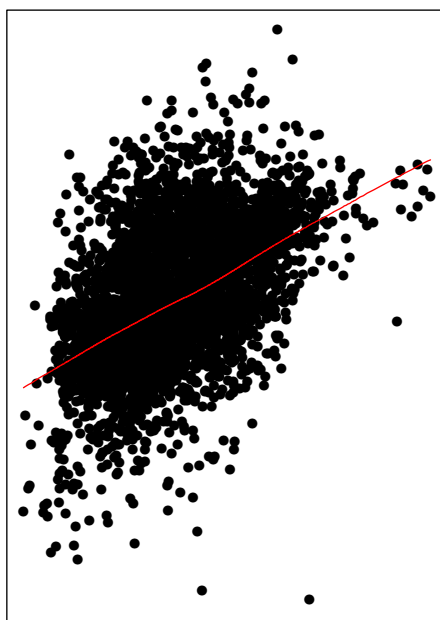
50
40
30
20
10



V1 Gear 2
SPEED



1000 2000 3000 4000



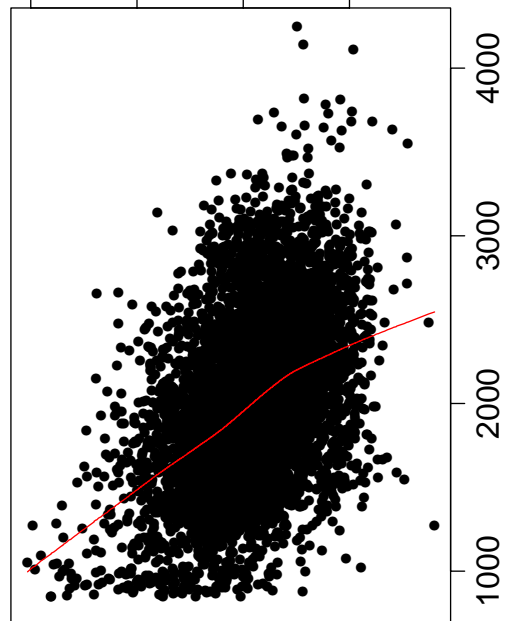
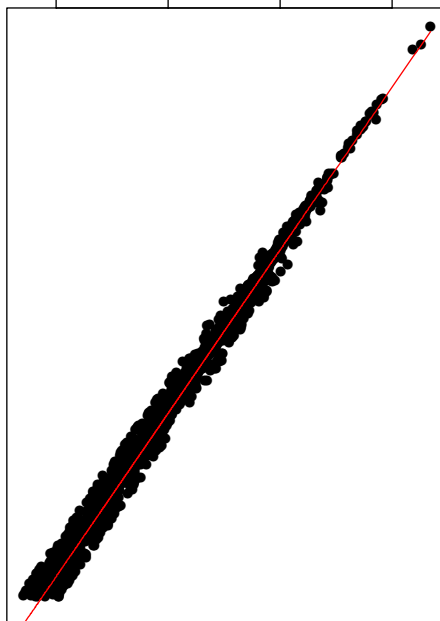
V1 Gear 2
ACCELERATION

-5 0 5 10

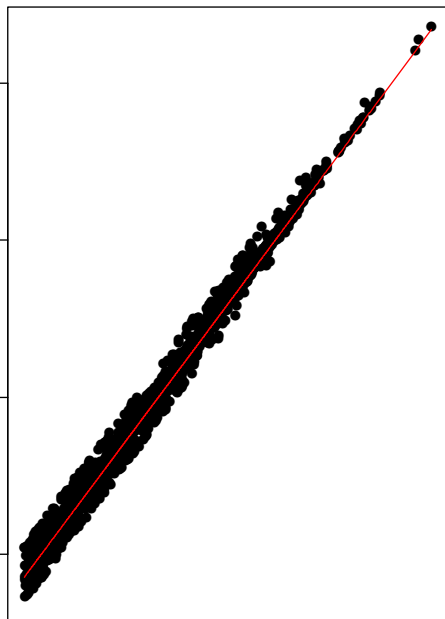
Appendix I
Figure 4

V1 Gear 3
RPM

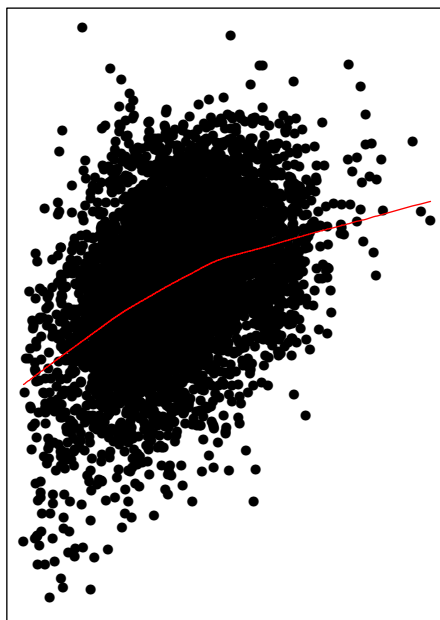
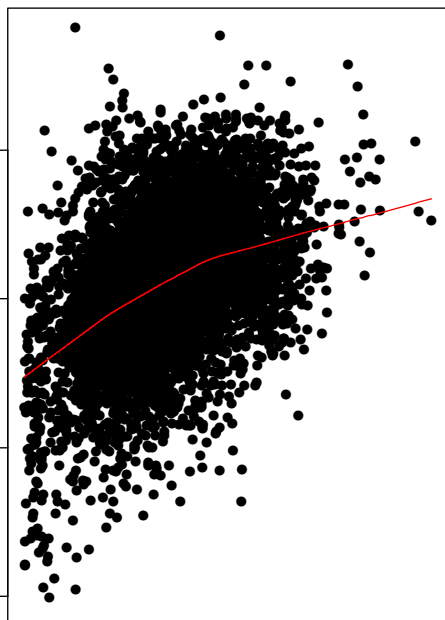
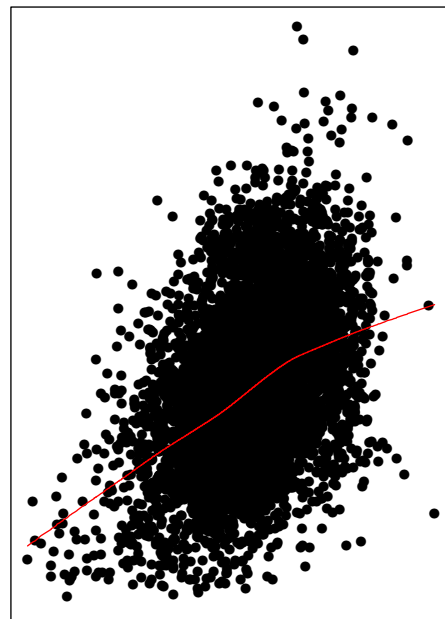
20 40 60 80



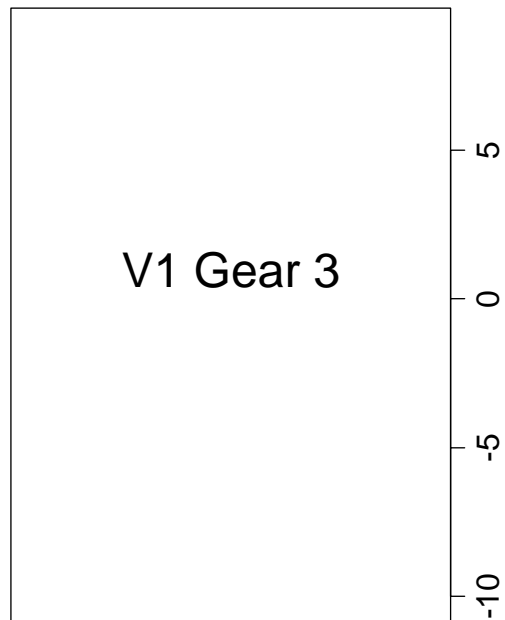
80
60
40
20



V1 Gear 3
SPEED



V1 Gear 3



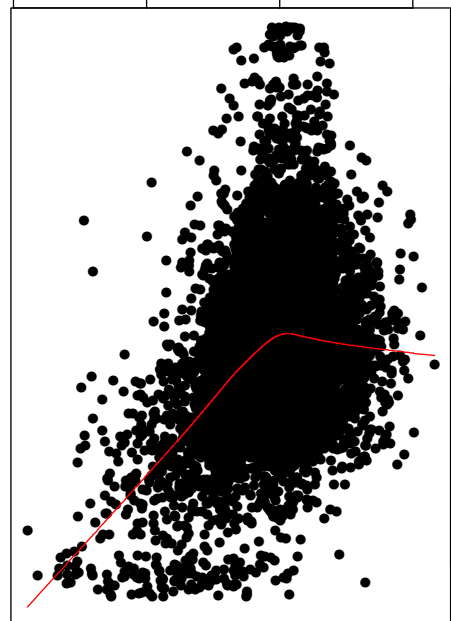
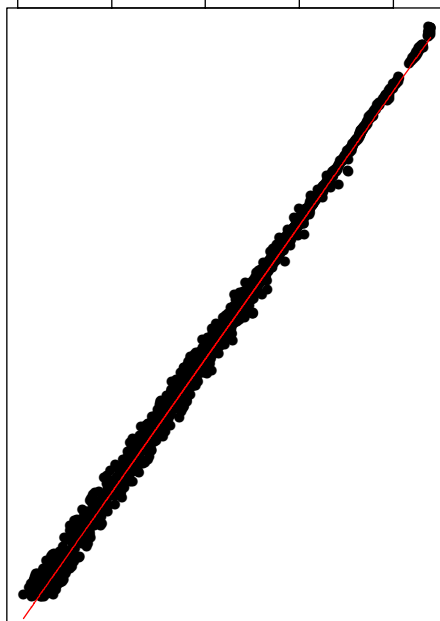
1000 2000 3000 4000

-10 -5 0 5

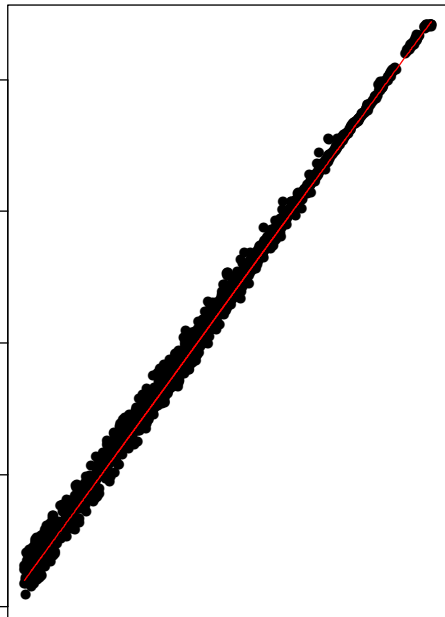
Appendix I
Figure 5

V1 Gear 4
RPM

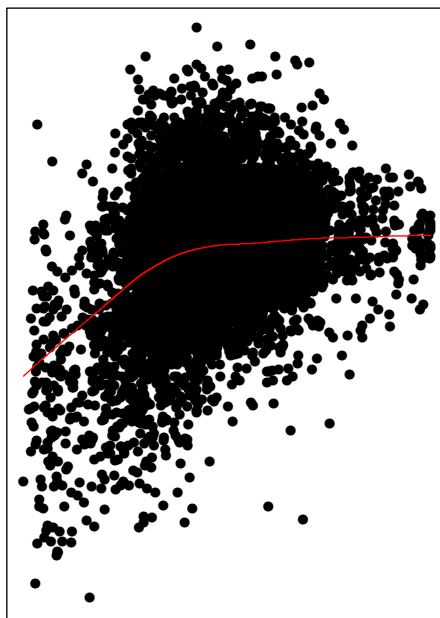
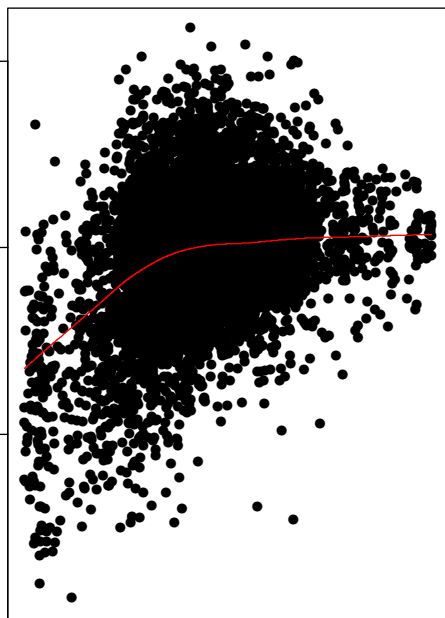
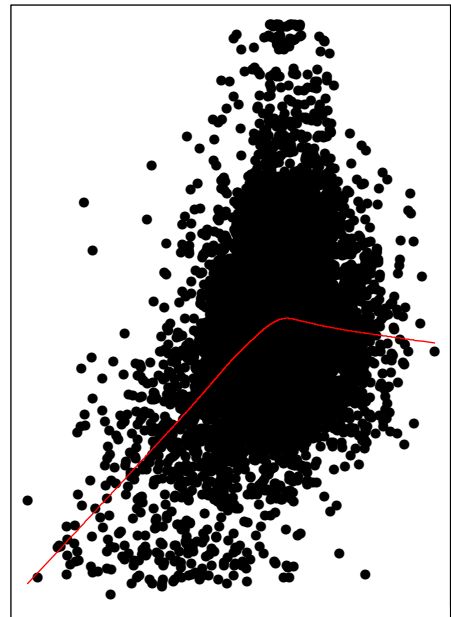
20 40 60 80 100



100
80
60
40
20



V1 Gear 4
SPEED



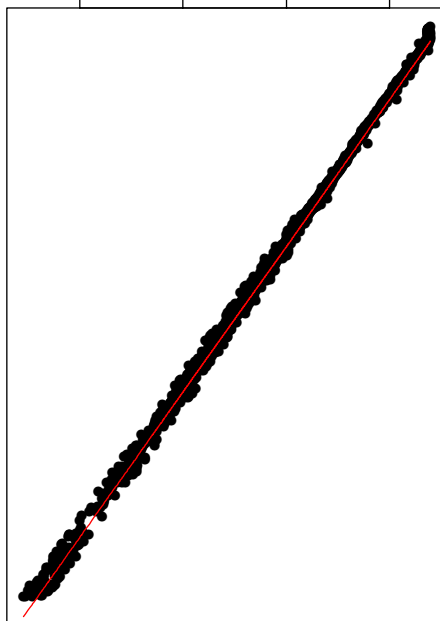
V1 Gear 4
ACCELERATION

5
0
-5
-10

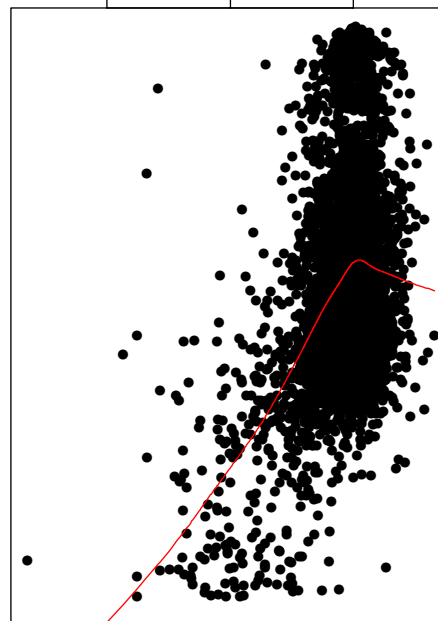
Appendix I
Figure 6

V1 Gear 5
RPM

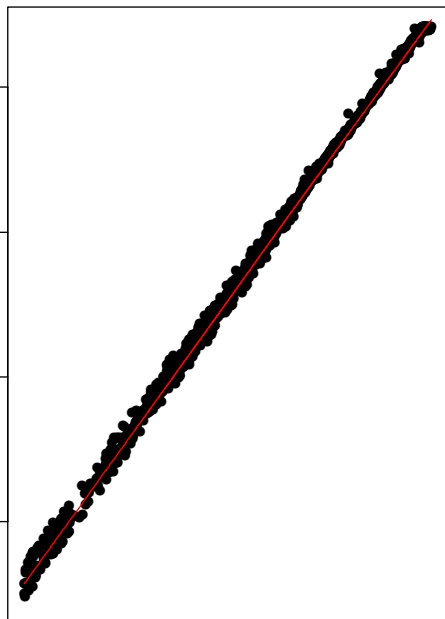
40 60 80 100



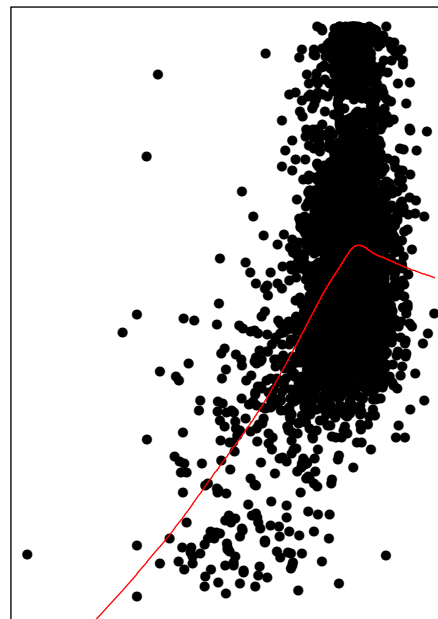
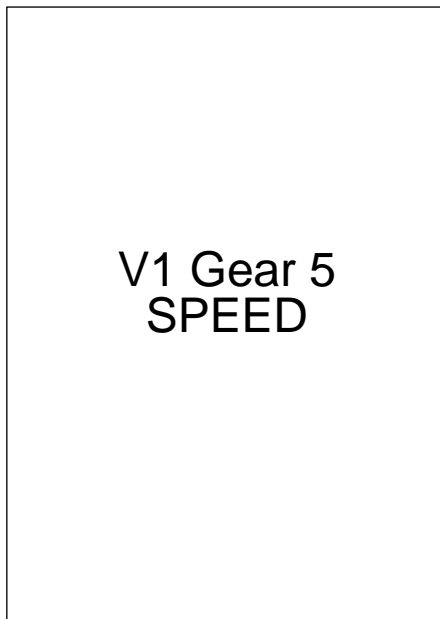
2500
2000
1500
1000



100
80
60
40

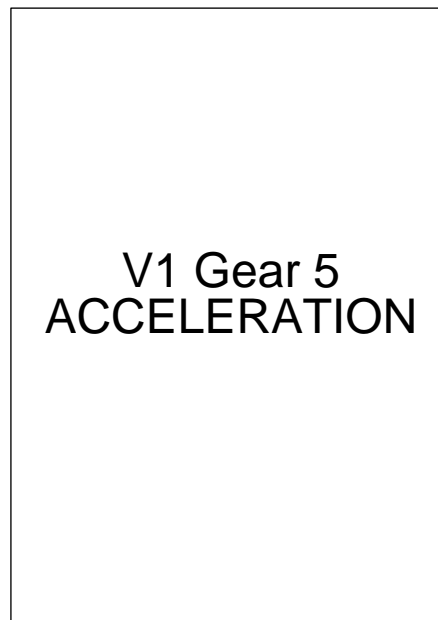
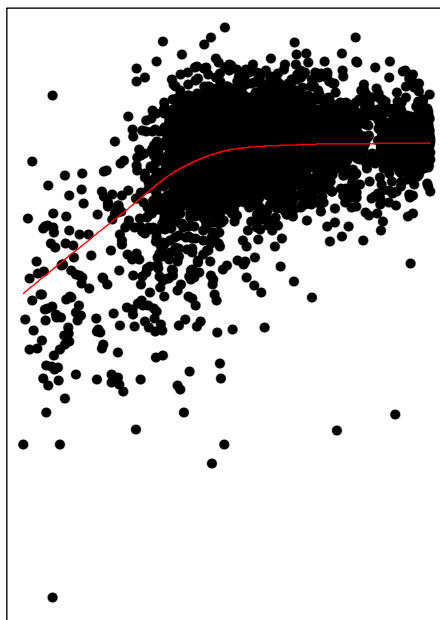
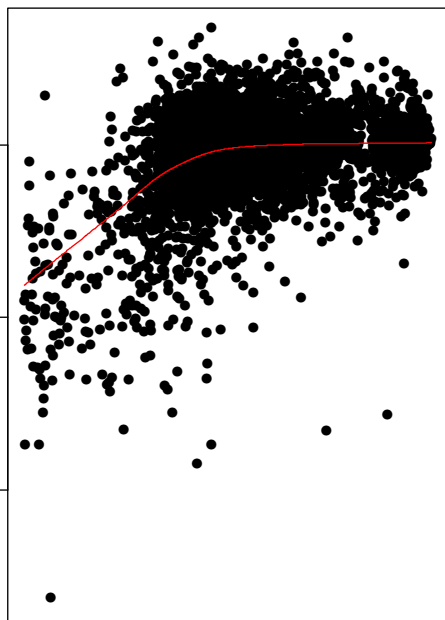


V1 Gear 5
SPEED



0
-5
-10

V1 Gear 5
ACCELERATION



1000 2000

-10 -5 0

Appendix I
Figure 7

V1 RPM<820
RPM

0 20 40 60 80

800
600
400
200

80
60
40
20
0

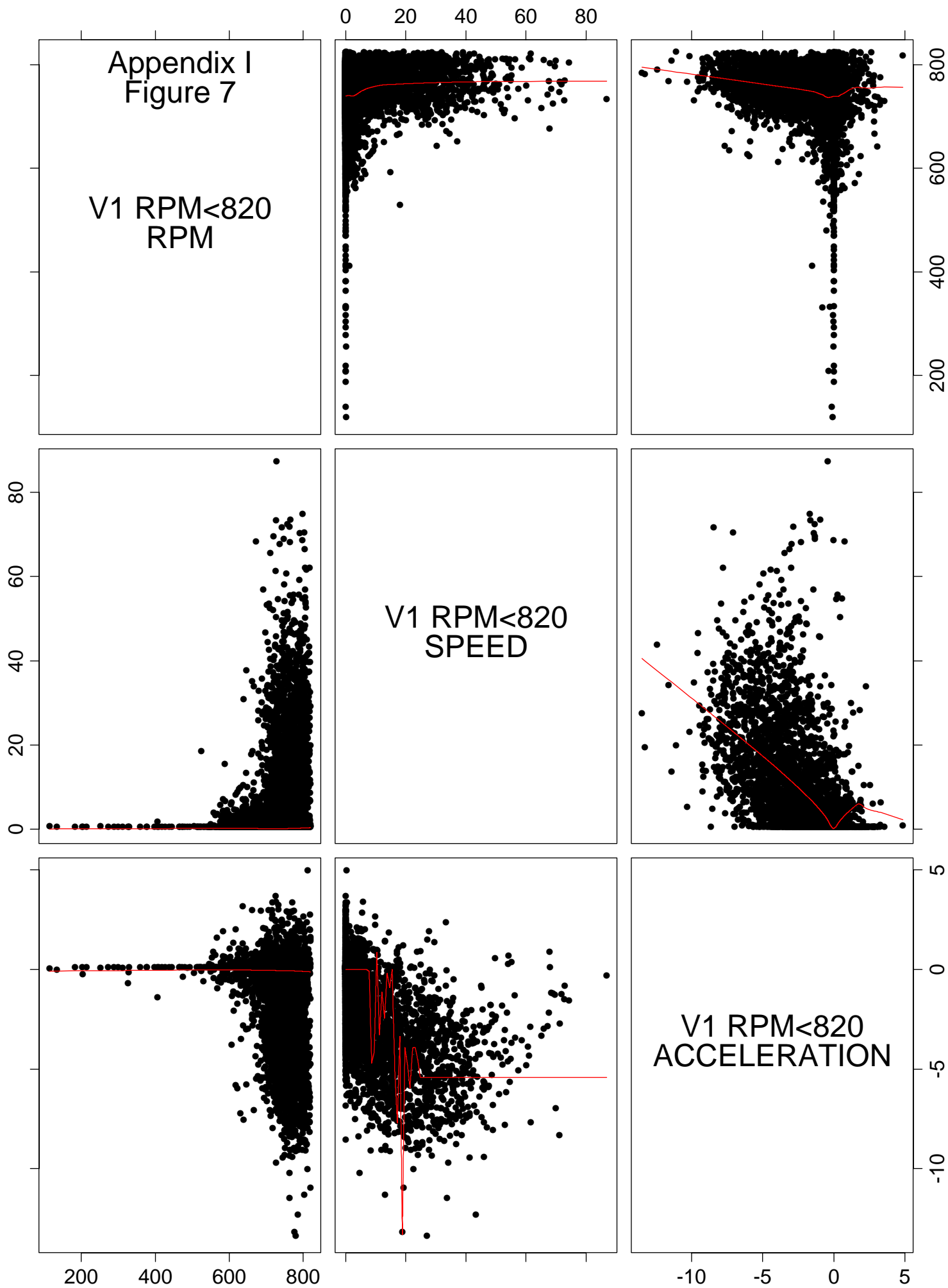
V1 RPM<820
SPEED

V1 RPM<820
ACCELERATION

5
0
-5
-10

200 400 600 800

-10 -5 0 5



ATTACHMENT 1

CSIRO MATHEMATICAL AND INFORMATION SCIENCES (CMIS) – THE IDENTIFICATION OF TYPICAL DRIVE CYCLES FOR DIESEL VEHICLES

Proposed Diesel Vehicle Emissions
National Environment Protection Measure
Preparatory Work

In-Service Emissions Performance
Phase 1: Urban Drive Cycle Development



Appendix J Figure 1 ADR Category ME Vehicle 5 MAN Euro-II Bus

