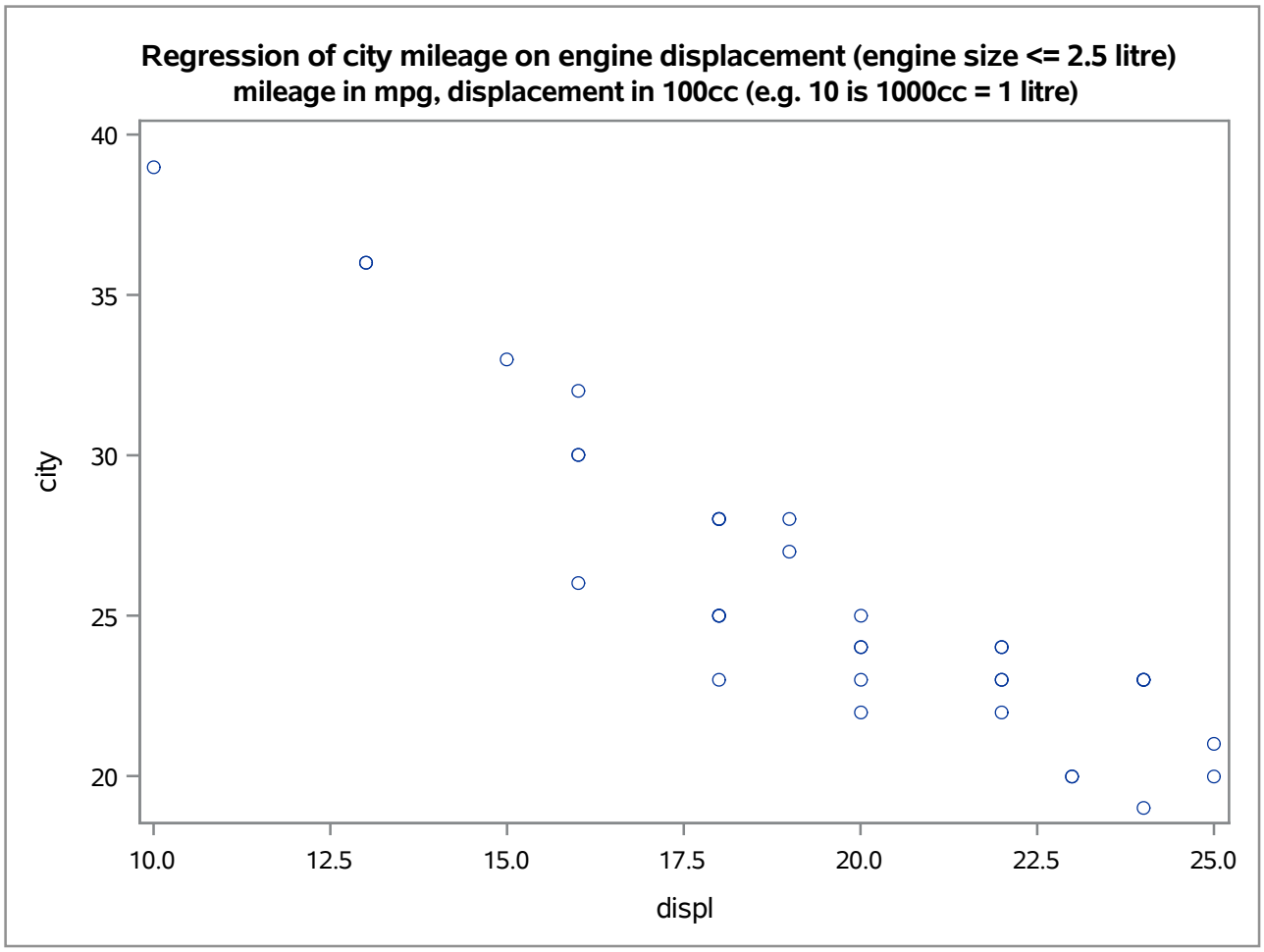

Regression of city mileage on engine displacement (engine size <= 2.5 litre)
mileage in mpg, displacement in 100cc (e.g. 10 is 1000cc = 1 litre)
city
40
35
30
25
20
10.0
12.5
15.0
17.5
20.0
22.5
25.0
displ

Regression of city mileage on engine displacement (engine size <= 2.5 litre) mileage in mpg, displacement in 100cc (e.g. 10 is 1000cc = 1 litre)

The REG Procedure
Model: MODEL1
Dependent Variable: city

Number of Observations Read	35
Number of Observations Used	35

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	662.71727	662.71727	161.45	<.0001
Error	33	135.45415	4.10467		
Corrected Total	34	798.17143			

Root MSE	2.02600	R-Square	0.8303
Dependent Mean	25.77143	Adj R-Sq	0.8252
Coeff Var	7.86141		

The linear relationship between city mileage and engine displacement explains (accounts for) 83.03% of the variability in city mileage.

Parameter Estimates

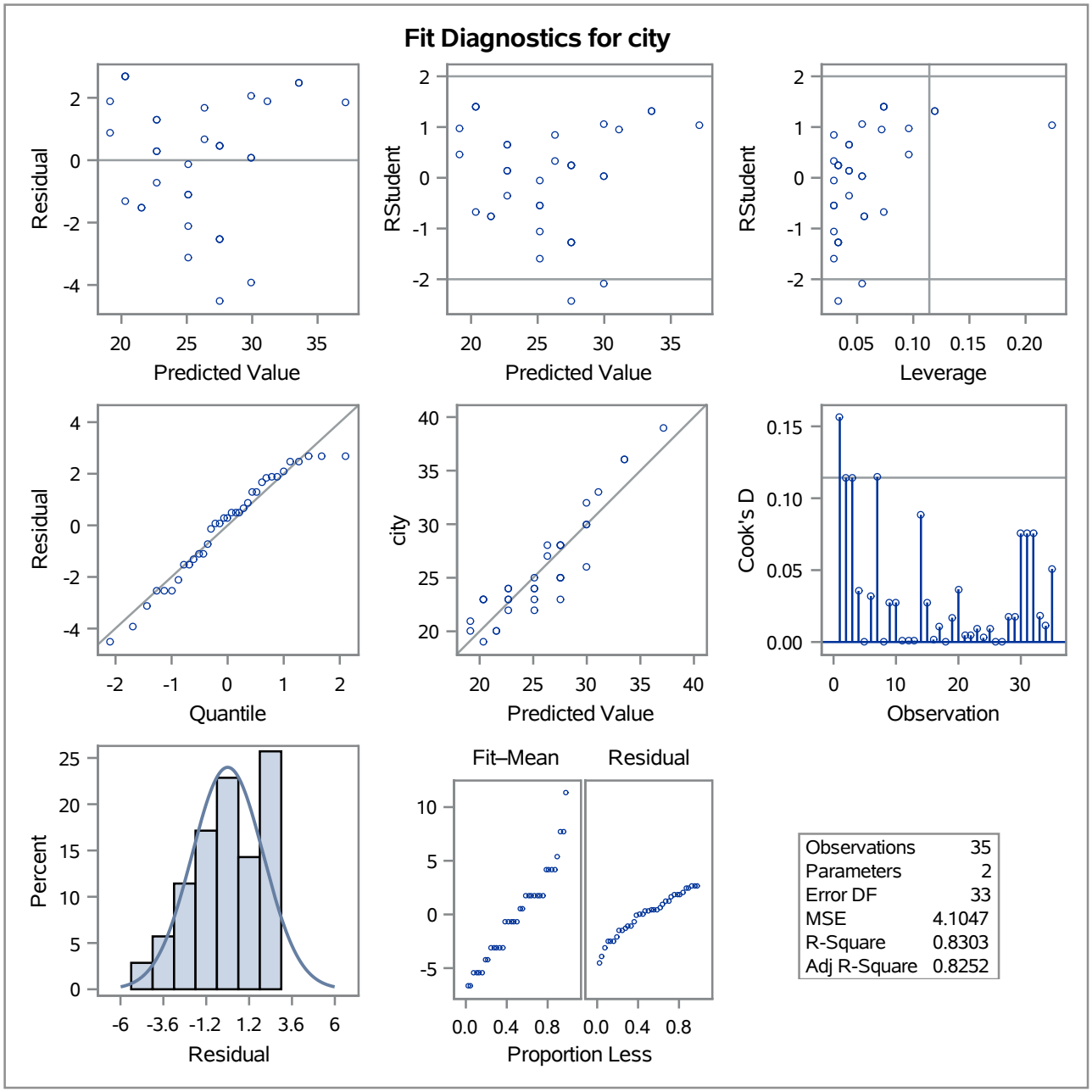
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	49.15903	1.87219	26.26	<.0001
displ	1	-1.20201	0.09460	-12.71	<.0001

The slope is -1.2020 mpg per 100 cc
The intercept 49.1590 mpg

The least squares regression line has equation y-hat = 49.1590 - 1.2020*x, where x is engine displacement in 100 cc.

Regression of city mileage on engine displacement (engine size <= 2.5 litre) mileage in mpg, displacement in 100cc (e.g. 10 is 1000cc = 1 litre)

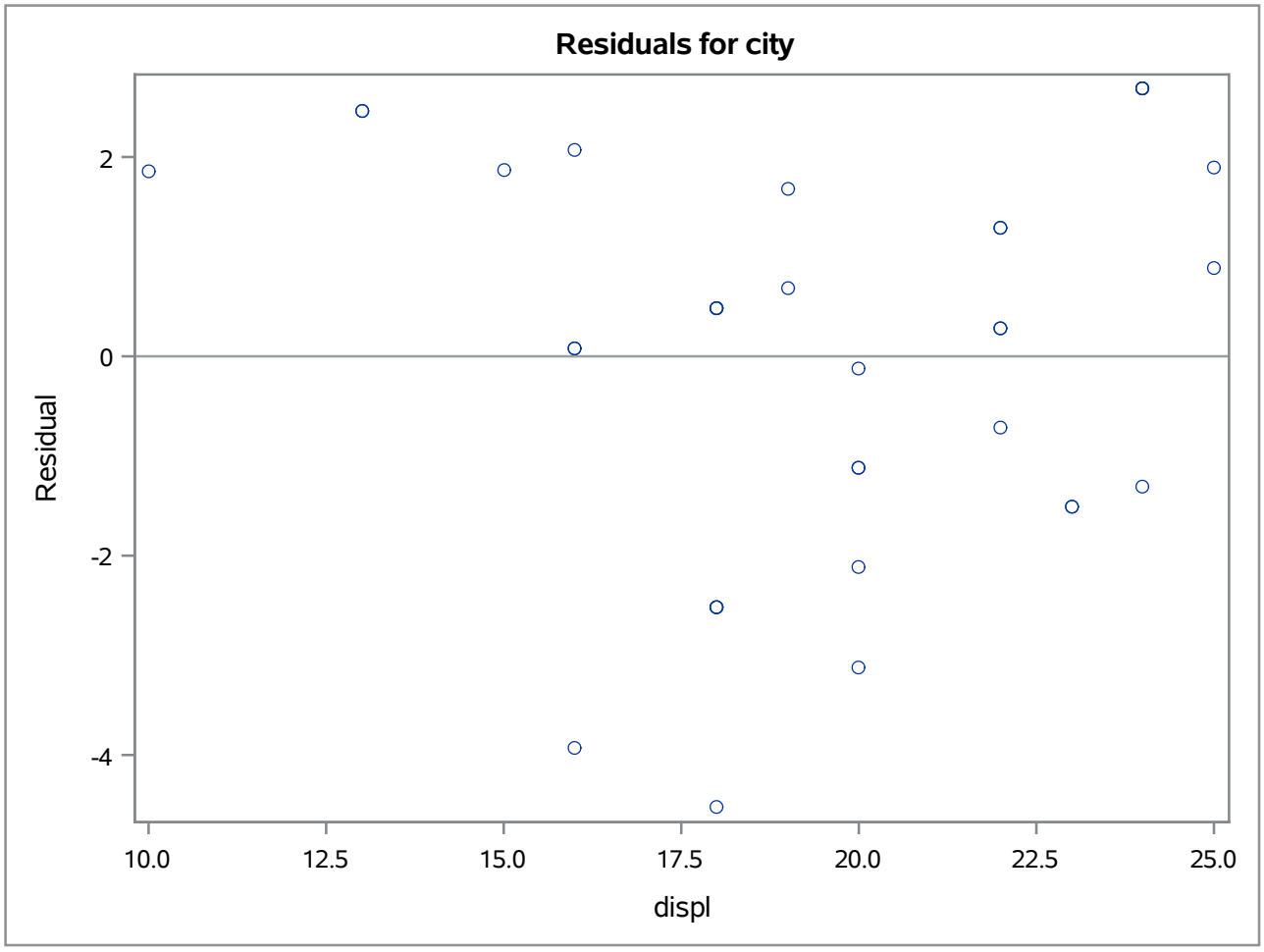
The REG Procedure
Model: MODEL1
Dependent Variable: city



Observations	35
Parameters	2
Error DF	33
MSE	4.1047
R-Square	0.8303
Adj R-Square	0.8252

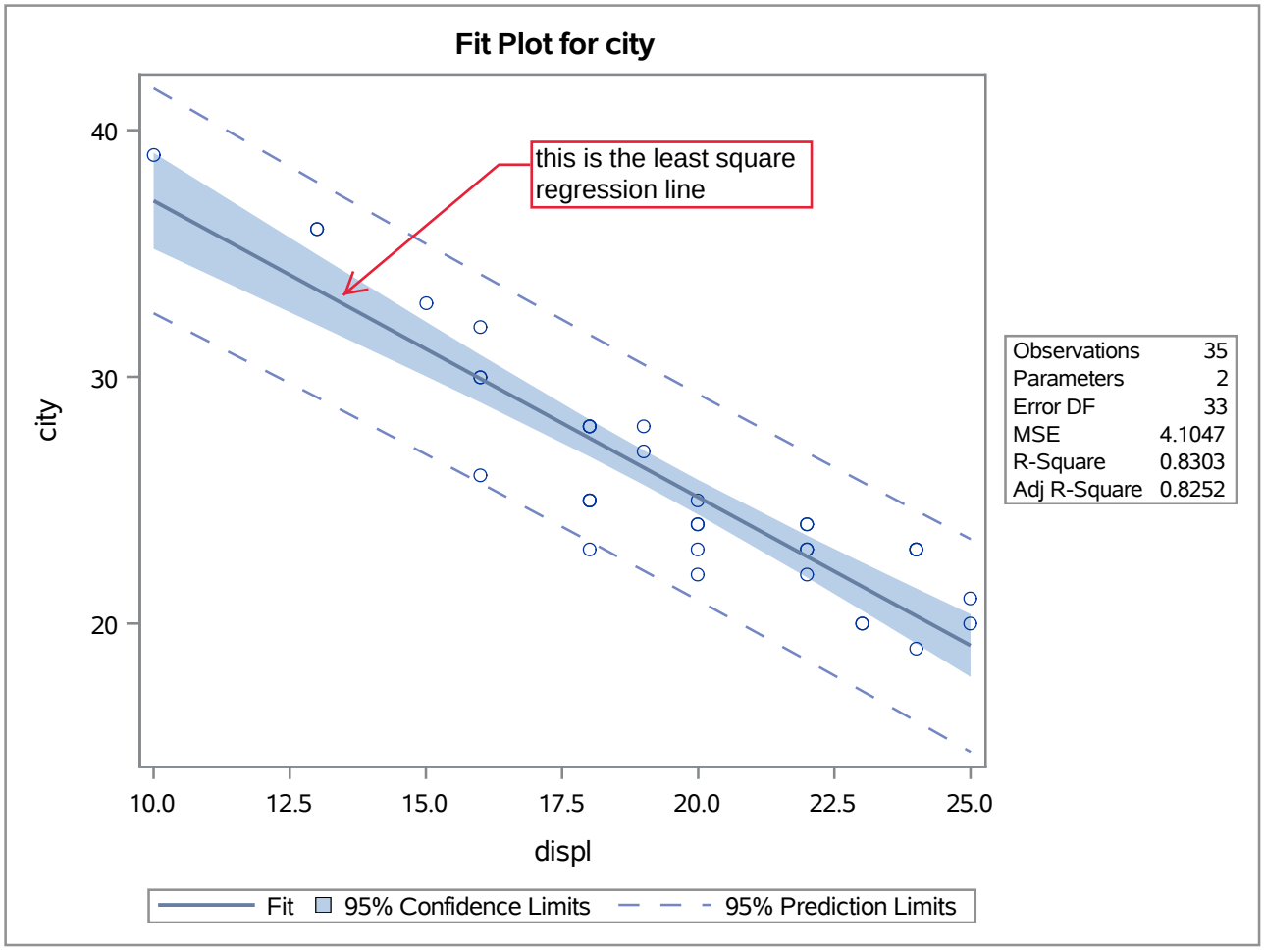
Regression of city mileage on engine displacement (engine size <= 2.5 litre)
mileage in mpg, displacement in 100cc (e.g. 10 is 1000cc = 1 litre)

The REG Procedure
Model: MODEL1
Dependent Variable: city



Regression of city mileage on engine displacement (engine size <= 2.5 litre) mileage in mpg, displacement in 100cc (e.g. 10 is 1000cc = 1 litre)

The REG Procedure
Model: MODEL1
Dependent Variable: city



Regression of city mileage on engine displacement (engine size <= 2.5 litre)
mileage in mpg, displacement in 100cc (e.g. 10 is 1000cc = 1 litre)

Obs	displ	city	yhat	resid
1	10	39	37.1390	1.86103
2	13	36	33.5330	2.46705
3	13	36	33.5330	2.46705
4	15	33	31.1289	1.87106
5	16	30	29.9269	0.07307
6	16	32	29.9269	2.07307
7	16	26	29.9269	-3.92693
8	16	30	29.9269	0.07307
9	18	25	27.5229	-2.52292
10	18	25	27.5229	-2.52292
11	18	28	27.5229	0.47708
12	18	28	27.5229	0.47708
13	18	28	27.5229	0.47708
14	18	23	27.5229	-4.52292
15	18	25	27.5229	-2.52292
16	19	27	26.3209	0.67908
17	19	28	26.3209	1.67908
18	20	25	25.1189	-0.11891
19	20	23	25.1189	-2.11891
20	20	22	25.1189	-3.11891
21	20	24	25.1189	-1.11891
22	20	24	25.1189	-1.11891
23	22	24	22.7149	1.28510
24	22	22	22.7149	-0.71490
25	22	24	22.7149	1.28510
26	22	23	22.7149	0.28510
27	22	23	22.7149	0.28510
28	23	20	21.5129	-1.51289
29	23	20	21.5129	-1.51289
30	24	23	20.3109	2.68911
31	24	23	20.3109	2.68911
32	24	23	20.3109	2.68911
33	24	19	20.3109	-1.31089
34	25	20	19.1089	0.89112
35	25	21	19.1089	1.89112