Mixed run for Question 1
%of Training Time Spent Moving

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctTTMove
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Number of Observations Read	116
Number of Observations Used	116

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	47
Subjects (Blocks in V)	1
Max Obs per Subject	116

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**8**	126.13805472	2.00000000	3.518E-6

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
1	**0**	**7**	138.28575496	2.00000000	0.000013
2	**0**	**3**	139.26962548	0.01558438	0.000046
3	**0**	**3**	139.27791864	0.00082807	0.000058
4	**0**	**2**	139.27787249	0.00002579	0.000107
5	**0**	**2**	139.27786693	0.00000659	1.538E-7
6	**0**	**0**	139.27786566	0.00000000	3.138E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	139.28
Generalized Chi-Square	83.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.1357	0.1205
Scale	104.09	17.9377

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	0.96	0.5554

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	-3.0119	0.2213	14	-13.61	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	2.31	0.1093
7 vs ave(17,28,32)	1	14	2.70	0.1225
20 vs ave(17,28,32)	1	14	0.12	0.7372

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
7	**-3.7181**	**0.3682**	**14**	**-10.10**	**<.0001**	**0.05**	**-4.5078**	**-2.9284**	**0.02370**	**0.008521**	**0.01090**	**0.05077**
17	**-2.3176**	**0.3314**	**14**	**-6.99**	**<.0001**	**0.05**	**-3.0283**	**-1.6069**	**0.08968**	**0.02705**	**0.04616**	**0.1670**
20	**-3.1662**	**0.3924**	**14**	**-8.07**	**<.0001**	**0.05**	**-4.0078**	**-2.3246**	**0.04046**	**0.01523**	**0.01785**	**0.08911**

28	-3.4919	0.4821	14	-7.24	<.0001	0.05	-4.5259	-2.4580	0.02954	0.01382	0.01071	0.07886
32	-3.2263	0.3141	14	-10.27	<.0001	0.05	-3.9000	-2.5526	0.03819	0.01154	0.01984	0.07225

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
7	17	-1.4005	0.4953	14	-2.83	0.0134	1.0000	0.05	-2.4629	-0.3381	-4.0722	1.2712
7	20	-0.5519	0.5381	14	-1.03	0.3224	1.0000	0.05	-1.7060	0.6022	-3.4542	2.3504
7	28	-0.2262	0.6066	14	-0.37	0.7149	1.0000	0.05	-1.5272	1.0749	-3.4980	3.0456
7	32	-0.4918	0.4840	14	-1.02	0.3268	1.0000	0.05	-1.5298	0.5462	-3.1022	2.1186
17	20	0.8486	0.5136	14	1.65	0.1207	1.0000	0.05	-0.2529	1.9501	-1.9215	3.6187
17	28	1.1743	0.5850	14	2.01	0.0644	1.0000	0.05	-0.08033	2.4290	-1.9808	4.3295
17	32	0.9087	0.4566	14	1.99	0.0665	1.0000	0.05	-0.07055	1.8880	-1.5539	3.3713
20	28	0.3257	0.6216	14	0.52	0.6085	1.0000	0.05	-1.0074	1.6589	-3.0269	3.6784
20	32	0.06012	0.5026	14	0.12	0.9065	1.0000	0.05	-1.0179	1.1382	-2.6509	2.7711
28	32	-0.2656	0.5754	14	-0.46	0.6514	1.0000	0.05	-1.4997	0.9685	-3.3690	2.8378

Mixed run for Question 1
%of Moving Time Spent off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctMovOff
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Number of Observations Read 116

Number of Observations Used	116

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	47
Subjects (Blocks in V)	1
Max Obs per Subject	116

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**8**	75.236164168	0.33510569	2.242E-8
1	**0**	**4**	77.931313485	0.02268640	0.002603
2	**0**	**3**	77.963234887	0.00054354	7.595E-7
3	**0**	**1**	77.962834989	0.00001581	2.059E-6
4	**0**	**1**	77.962826955	0.00000027	2.102E-6
5	**0**	**0**	77.962826817	0.00000000	2.103E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	77.96
Generalized Chi-Square	83.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.1131	0.07741
Scale	90.8704	16.0239

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	2.04	0.0780

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	-1.8197	0.1681	14	-10.82	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	2.45	0.0946
7 vs ave(17,28,32)	1	14	0.55	0.4710
20 vs ave(17,28,32)	1	14	0.90	0.3599

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
7	**-1.6147**	**0.2197**	**14**	**-7.35**	**<.0001**	**0.05**	**-2.0859**	**-1.1434**	**0.1659**	**0.03041**	**0.1105**	**0.2417**
17	**-2.1269**	**0.3137**	**14**	**-6.78**	**<.0001**	**0.05**	**-2.7998**	**-1.4540**	**0.1065**	**0.02986**	**0.05734**	**0.1894**
20	**-2.1566**	**0.3137**	**14**	**-6.87**	**<.0001**	**0.05**	**-2.8295**	**-1.4837**	**0.1037**	**0.02917**	**0.05575**	**0.1849**
28	**-2.0746**	**0.3344**	**14**	**-6.20**	**<.0001**	**0.05**	**-2.7918**	**-1.3574**	**0.1116**	**0.03315**	**0.05777**	**0.2047**
32	**-1.2574**	**0.2103**	**14**	**-5.98**	**<.0001**	**0.05**	**-1.7084**	**-0.8064**	**0.2214**	**0.03625**	**0.1534**	**0.3087**

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
7	**17**	**0.5122**	**0.3830**	**14**	**1.34**	**0.2024**	**1.0000**	**0.05**	**-0.3093**	**1.3337**	**-1.5536**	**2.5780**
7	**20**	**0.5419**	**0.3830**	**14**	**1.41**	**0.1790**	**1.0000**	**0.05**	**-0.2796**	**1.3634**	**-1.5240**	**2.6078**
7	**28**	**0.4600**	**0.4001**	**14**	**1.15**	**0.2696**	**1.0000**	**0.05**	**-0.3982**	**1.3181**	**-1.6981**	**2.6180**
7	**32**	**-0.3573**	**0.3041**	**14**	**-1.17**	**0.2597**	**1.0000**	**0.05**	**-1.0095**	**0.2950**	**-1.9976**	**1.2831**
17	**20**	**0.02971**	**0.4437**	**14**	**0.07**	**0.9476**	**1.0000**	**0.05**	**-0.9219**	**0.9813**	**-2.3634**	**2.4228**
17	**28**	**-0.05227**	**0.4585**	**14**	**-0.11**	**0.9109**	**1.0000**	**0.05**	**-1.0357**	**0.9312**	**-2.5254**	**2.4208**
17	**32**	**-0.8695**	**0.3777**	**14**	**-2.30**	**0.0372**	**1.0000**	**0.05**	**-1.6795**	**-0.05943**	**-2.9066**	**1.1676**
20	**28**	**-0.08198**	**0.4585**	**14**	**-0.18**	**0.8607**	**1.0000**	**0.05**	**-1.0654**	**0.9015**	**-2.5551**	**2.3912**
20	**32**	**-0.8992**	**0.3777**	**14**	**-2.38**	**0.0320**	**1.0000**	**0.05**	**-1.7093**	**-0.08911**	**-2.9363**	**1.1380**
28	**32**	**-0.8172**	**0.3950**	**14**	**-2.07**	**0.0576**	**1.0000**	**0.05**	**-1.6644**	**0.03002**	**-2.9478**	**1.3134**

Mixed run for Question 1
Total Distance Travled

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	TDTlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	47
Subjects	1
Max Obs Per Subject	116

Number of Observations

Number of Observations Read	116
Number of Observations Used	116
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-27.61030275	
1	2	-33.59688374	0.00000027
2	1	-33.59690926	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.02088	0.01427	1.46	0.0717	0.05	0.007689	0.1555
Residual	0.02127	0.003605	5.90	<.0001	0.05	0.01566	0.03057

Fit Statistics

-2 Res Log Likelihood	-33.6
AIC (smaller is better)	-29.6
AICC (smaller is better)	-29.4
BIC (smaller is better)	-25.9

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	1.78	0.1268

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	4.8260	0.07427	14	64.98	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	2.80	0.0673
7 vs ave(17,28,32)	1	14	0.97	0.3415
20 vs ave(17,28,32)	1	14	0.04	0.8421

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**7**	**4.7012**	**0.1027**	**14**	**45.80**	**<.0001**	**0.05**	**4.4810**	**4.9214**
PLTNo	**17**	**5.0404**	**0.1343**	**14**	**37.53**	**<.0001**	**0.05**	**4.7524**	**5.3284**
PLTNo	**20**	**4.8571**	**0.1343**	**14**	**36.17**	**<.0001**	**0.05**	**4.5691**	**5.1451**
PLTNo	**28**	**4.4834**	**0.1452**	**14**	**30.88**	**<.0001**	**0.05**	**4.1720**	**4.7947**
PLTNo	**32**	**4.9541**	**0.1027**	**14**	**48.26**	**<.0001**	**0.05**	**4.7340**	**5.1743**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper

PLTNo	**7**	**17**	**-0.3392**	**0.1690**	**14**	**-2.01**	**0.0645**	**Bonferroni**	**1.0000**	**0.05**	**-0.7017**	**0.02335**	**-1.2509**	**0.5725**
PLTNo	**7**	**20**	**-0.1559**	**0.1690**	**14**	**-0.92**	**0.3720**	**Bonferroni**	**1.0000**	**0.05**	**-0.5184**	**0.2066**	**-1.0676**	**0.7558**
PLTNo	**7**	**28**	**0.2178**	**0.1778**	**14**	**1.23**	**0.2407**	**Bonferroni**	**1.0000**	**0.05**	**-0.1635**	**0.5992**	**-0.7412**	**1.1768**
PLTNo	**7**	**32**	**-0.2529**	**0.1452**	**14**	**-1.74**	**0.1034**	**Bonferroni**	**1.0000**	**0.05**	**-0.5643**	**0.05843**	**-1.0360**	**0.5301**
PLTNo	**17**	**20**	**0.1833**	**0.1899**	**14**	**0.97**	**0.3509**	**Bonferroni**	**1.0000**	**0.05**	**-0.2240**	**0.5906**	**-0.8410**	**1.2076**
PLTNo	**17**	**28**	**0.5570**	**0.1978**	**14**	**2.82**	**0.0137**	**Bonferroni**	**1.0000**	**0.05**	**0.1329**	**0.9812**	**-0.5096**	**1.6237**
PLTNo	**17**	**32**	**0.08624**	**0.1690**	**14**	**0.51**	**0.6178**	**Bonferroni**	**1.0000**	**0.05**	**-0.2763**	**0.4488**	**-0.8254**	**0.9979**
PLTNo	**20**	**28**	**0.3738**	**0.1978**	**14**	**1.89**	**0.0797**	**Bonferroni**	**1.0000**	**0.05**	**-0.05040**	**0.7979**	**-0.6929**	**1.4404**
PLTNo	**20**	**32**	**-0.09703**	**0.1690**	**14**	**-0.57**	**0.5750**	**Bonferroni**	**1.0000**	**0.05**	**-0.4596**	**0.2655**	**-1.0087**	**0.8147**
PLTNo	**28**	**32**	**-0.4708**	**0.1778**	**14**	**-2.65**	**0.0191**	**Bonferroni**	**1.0000**	**0.05**	**-0.8521**	**-0.08944**	**-1.4298**	**0.4882**

Mixed run for Question 1
Total Distance Travled

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	116	**Sum Weights**	116
Mean	0	**Sum Observations**	0
Std Deviation	0.11801619	**Variance**	0.01392782
Skewness	-0.193602	**Kurtosis**	2.61723571
Uncorrected SS	1.60169936	**Corrected SS**	1.60169936
Coeff Variation	.	**Std Error Mean**	0.01095753

Basic Statistical Measures

Location		**Variability**	
Mean	0.000000	**Std Deviation**	0.11802
Median	0.001213	**Variance**	0.01393
Mode	0.000000	**Range**	0.81924

Basic Statistical Measures

Location		Variability	
		Interquartile Range	0.10989

Tests for Location: Mu0=0

Test	Statistic		p Value	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	2	**Pr >= |M|**	0.7807
Signed Rank	**S**	146.5	**Pr >= |S|**	0.6883

Tests for Normality

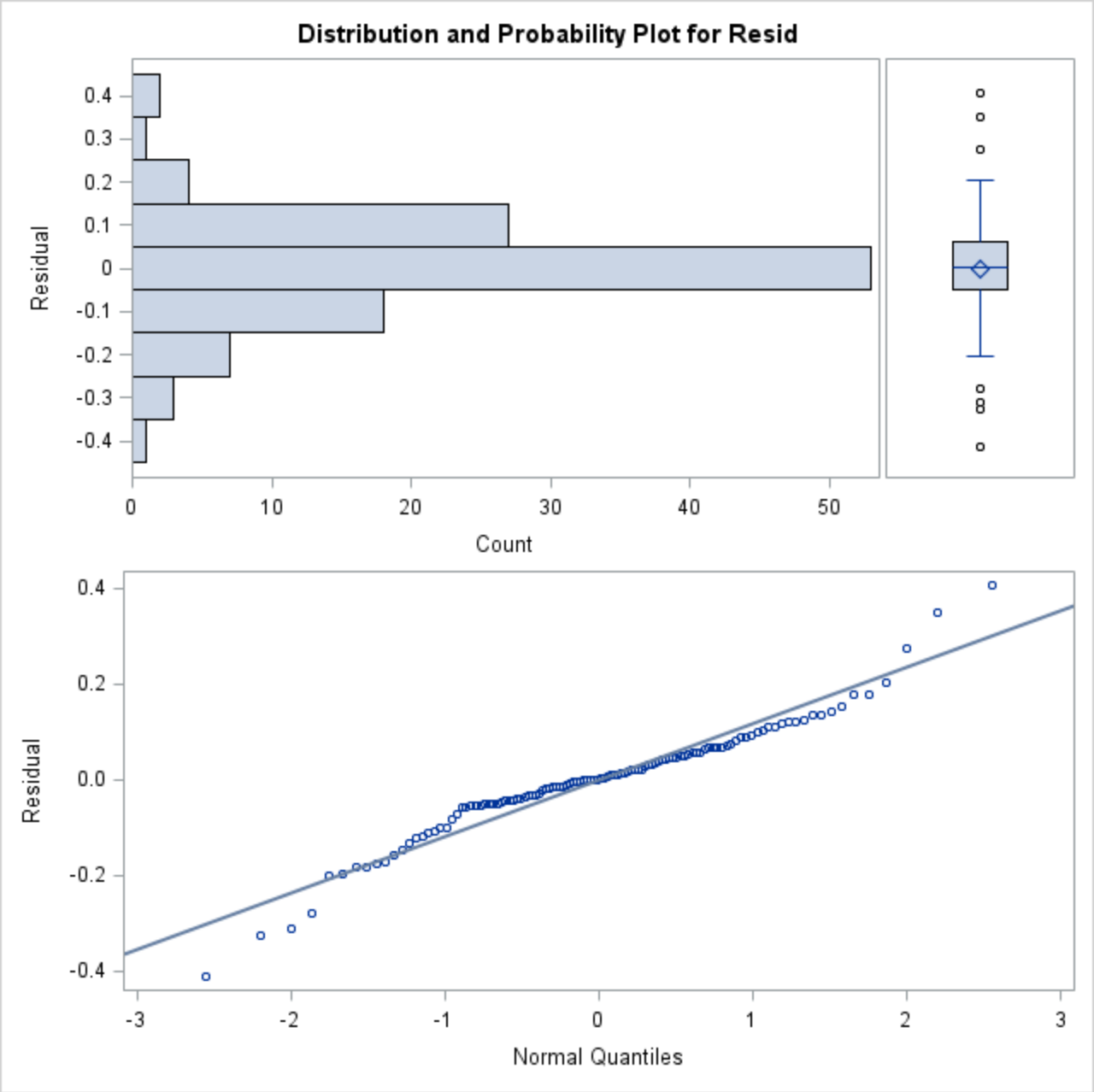
Test	Statistic		p Value	
Shapiro-Wilk	**W**	0.949534	**Pr < W**	0.0003
Kolmogorov-Smirnov	**D**	0.127234	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.30689	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	1.805872	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.40680059
99%	0.35063308
95%	0.17693938
90%	0.12173601
75% Q3	0.05994747
50% Median	0.00121349
25% Q1	-0.04994139
10%	-0.14552316
5%	-0.19879402
1%	-0.32492833
0% Min	-0.41244175

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.412442	80	0.177436	48
-0.324928	74	0.202516	101
-0.312070	100	0.274501	75
-0.278232	40	0.350633	50
-0.202516	96	0.406801	53



Mixed run for Question 1
Distance Travled off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	DTORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based

Model Information

Degrees of Freedom Method Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	47
Subjects	1
Max Obs Per Subject	116

Number of Observations

Number of Observations Read	116
Number of Observations Used	116
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	27.36612745	
1	3	26.64281078	0.00001275
2	1	26.64199469	0.00000001

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.01097	0.01601	0.69	0.2466	0.05	0.002121	17.2725
Residual	0.04829	0.008013	6.03	<.0001	0.05	0.03576	0.06883

Fit Statistics

-2 Res Log Likelihood	26.6
AIC (smaller is better)	30.6
AICC (smaller is better)	30.8
BIC (smaller is better)	34.3

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	4.20	0.0032

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	3.6741	0.08595	14	42.75	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	4.34	0.0172
7 vs ave(17,28,32)	1	14	4.05	0.0639
20 vs ave(17,28,32)	1	14	0.41	0.5300

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**7**	**3.3744**	**0.1217**	**14**	**27.72**	**<.0001**	**0.05**	**3.1133**	**3.6354**
PLTNo	**17**	**3.7905**	**0.1485**	**14**	**25.53**	**<.0001**	**0.05**	**3.4720**	**4.1089**
PLTNo	**20**	**3.5636**	**0.1485**	**14**	**24.00**	**<.0001**	**0.05**	**3.2452**	**3.8821**
PLTNo	**28**	**3.2728**	**0.1721**	**14**	**19.01**	**<.0001**	**0.05**	**2.9036**	**3.6420**
PLTNo	**32**	**3.9591**	**0.1217**	**14**	**32.53**	**<.0001**	**0.05**	**3.6981**	**4.2202**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**7**	**17**	**-0.4161**	**0.1920**	**14**	**-2.17**	**0.0479**	**Bonferroni**	**1.0000**	**0.05**	**-0.8279**	**-0.00433**	**-1.4516**	**0.6194**
PLTNo	**7**	**20**	**-0.1893**	**0.1920**	**14**	**-0.99**	**0.3410**	**Bonferroni**	**1.0000**	**0.05**	**-0.6011**	**0.2225**	**-1.2248**	**0.8463**
PLTNo	**7**	**28**	**0.1016**	**0.2108**	**14**	**0.48**	**0.6374**	**Bonferroni**	**1.0000**	**0.05**	**-0.3506**	**0.5537**	**-1.0355**	**1.2386**
PLTNo	**7**	**32**	**-0.5848**	**0.1721**	**14**	**-3.40**	**0.0043**	**Bonferroni**	**1.0000**	**0.05**	**-0.9539**	**-0.2156**	**-1.5131**	**0.3436**
PLTNo	**17**	**20**	**0.2268**	**0.2100**	**14**	**1.08**	**0.2983**	**Bonferroni**	**1.0000**	**0.05**	**-0.2235**	**0.6772**	**-0.9058**	**1.3594**

PLTNo	**17**	**28**	**0.5177**	**0.2273**	**14**	**2.28**	**0.0390**	**Bonferroni**	**1.0000**	**0.05**	**0.03012**	**1.0052**	**-0.7084**	**1.7438**
PLTNo	**17**	**32**	**-0.1687**	**0.1920**	**14**	**-0.88**	**0.3945**	**Bonferroni**	**1.0000**	**0.05**	**-0.5804**	**0.2431**	**-1.2042**	**0.8669**
PLTNo	**20**	**28**	**0.2908**	**0.2273**	**14**	**1.28**	**0.2215**	**Bonferroni**	**1.0000**	**0.05**	**-0.1967**	**0.7784**	**-0.9352**	**1.5169**
PLTNo	**20**	**32**	**-0.3955**	**0.1920**	**14**	**-2.06**	**0.0585**	**Bonferroni**	**1.0000**	**0.05**	**-0.8073**	**0.0162**	**-1.4310**	**0.6400**
PLTNo	**28**	**32**	**-0.6863**	**0.2108**	**14**	**-3.26**	**0.0057**	**Bonferroni**	**1.0000**	**0.05**	**-1.1385**	**-0.2342**	**-1.8234**	**0.4507**

Mixed run for Question 1
Distance Travled off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	116	**Sum Weights**	116
Mean	0	**Sum Observations**	0
Std Deviation	0.18302453	**Variance**	0.03349798
Skewness	-0.8351058	**Kurtosis**	1.99774963
Uncorrected SS	3.85226752	**Corrected SS**	3.85226752
Coeff Variation	.	**Std Error Mean**	0.0169934

Basic Statistical Measures

Location		**Variability**	
Mean	0.000000	**Std Deviation**	0.18302
Median	0.009790	**Variance**	0.03350
Mode	.	**Range**	1.16630
		Interquartile Range	0.18469

Tests for Location: Mu0=0

Test	**Statistic**		**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	8	**Pr >= |M|**	0.1634
Signed Rank	**S**	328	**Pr >= |S|**	0.3685

Tests for Normality

Test	**Statistic**	**p Value**

Tests for Normality

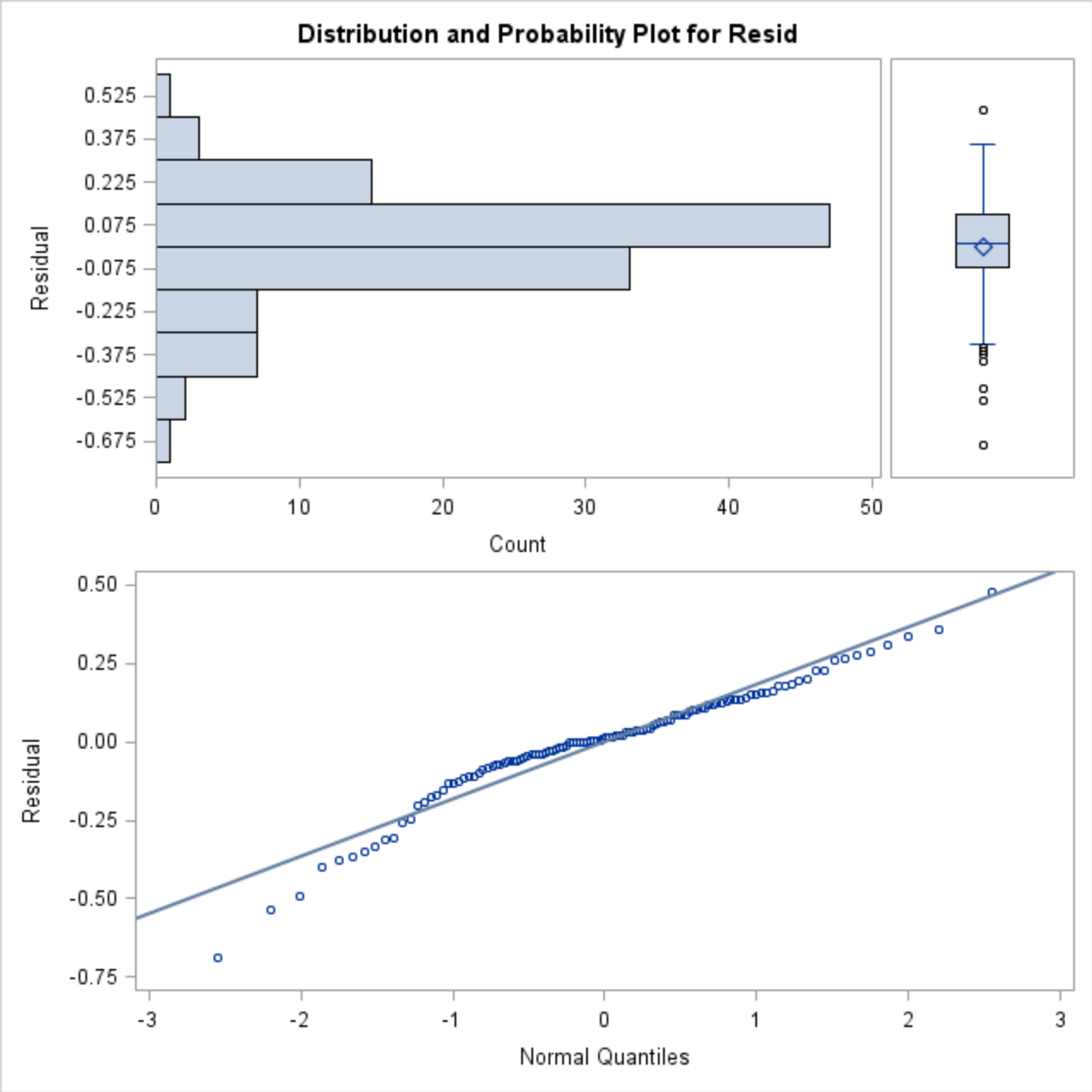
Test		Statistic		p Value
Shapiro-Wilk	**W**	0.950331	**Pr < W**	0.0003
Kolmogorov-Smirnov	**D**	0.111681	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.318015	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	1.829739	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.4758326
99%	0.3591780
95%	0.2755973
90%	0.1953397
75% Q3	0.1139033
50% Median	0.0097900
25% Q1	-0.0707855
10%	-0.2461339
5%	-0.3648216
1%	-0.5344050
0% Min	-0.6904627

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.690463	100	0.289289	105
-0.534405	74	0.306314	53
-0.491707	40	0.337103	48
-0.398304	10	0.359178	97
-0.375679	91	0.475833	75



Mixed run for Question 1
Average Total Speed

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	ATSlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile

Model Information

Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	47
Subjects	1
Max Obs Per Subject	116

Number of Observations

Number of Observations Read	116
Number of Observations Used	116
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-242.92648884	
1	2	-248.03190942	0.00085619
2	1	-248.22844873	0.00006097
3	1	-248.24128239	0.00000040
4	1	-248.24136222	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.001987	0.001305	1.52	0.0640	0.05	0.000753	0.01322
Residual	0.001562	0.000268	5.82	<.0001	0.05	0.001145	0.002256

Fit Statistics

-2 Res Log Likelihood	-248.2
AIC (smaller is better)	-244.2
AICC (smaller is better)	-244.1
BIC (smaller is better)	-240.5

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	1.63	0.1659

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	0.7792	0.02164	14	36.00	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	3.94	0.0239
7 vs ave(17,28,32)	1	14	11.75	0.0041
20 vs ave(17,28,32)	1	14	0.20	0.6617

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**7**	**0.9055**	**0.02978**	**14**	**30.40**	**<.0001**	**0.05**	**0.8416**	**0.9693**
PLTNo	**17**	**0.8161**	**0.03943**	**14**	**20.70**	**<.0001**	**0.05**	**0.7315**	**0.9007**
PLTNo	**20**	**0.7993**	**0.03943**	**14**	**20.27**	**<.0001**	**0.05**	**0.7148**	**0.8839**
PLTNo	**28**	**0.7065**	**0.04212**	**14**	**16.77**	**<.0001**	**0.05**	**0.6161**	**0.7968**
PLTNo	**32**	**0.8151**	**0.02978**	**14**	**27.37**	**<.0001**	**0.05**	**0.7512**	**0.8790**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**7**	**17**	**0.08934**	**0.04942**	**14**	**1.81**	**0.0922**	**Bonferroni**	**1.0000**	**0.05**	**-0.01665**	**0.1953**	**-0.1772**	**0.3559**
PLTNo	**7**	**20**	**0.1061**	**0.04942**	**14**	**2.15**	**0.0497**	**Bonferroni**	**1.0000**	**0.05**	**0.000138**	**0.2121**	**-0.1604**	**0.3727**
PLTNo	**7**	**28**	**0.1990**	**0.05159**	**14**	**3.86**	**0.0017**	**Bonferroni**	**0.9200**	**0.05**	**0.08835**	**0.3096**	**-0.07926**	**0.4772**
PLTNo	**7**	**32**	**0.09037**	**0.04212**	**14**	**2.15**	**0.0499**	**Bonferroni**	**1.0000**	**0.05**	**0.000031**	**0.1807**	**-0.1368**	**0.3176**
PLTNo	**17**	**20**	**0.01679**	**0.05577**	**14**	**0.30**	**0.7678**	**Bonferroni**	**1.0000**	**0.05**	**-0.1028**	**0.1364**	**-0.2840**	**0.3176**
PLTNo	**17**	**28**	**0.1097**	**0.05770**	**14**	**1.90**	**0.0782**	**Bonferroni**	**1.0000**	**0.05**	**-0.01410**	**0.2334**	**-0.2016**	**0.4209**
PLTNo	**17**	**32**	**0.001038**	**0.04942**	**14**	**0.02**	**0.9835**	**Bonferroni**	**1.0000**	**0.05**	**-0.1050**	**0.1070**	**-0.2655**	**0.2676**
PLTNo	**20**	**28**	**0.09287**	**0.05770**	**14**	**1.61**	**0.1298**	**Bonferroni**	**1.0000**	**0.05**	**-0.03089**	**0.2166**	**-0.2183**	**0.4041**

PLTNo	**20**	**32**	**-0.01575**	**0.04942**	**14**	**-0.32**	**0.7546**	**Bonferroni**	**1.0000**	**0.05**	**-0.1217**	**0.09024**	**-0.2823**	**0.2508**
PLTNo	**28**	**32**	**-0.1086**	**0.05159**	**14**	**-2.11**	**0.0538**	**Bonferroni**	**1.0000**	**0.05**	**-0.2193**	**0.002029**	**-0.3869**	**0.1696**

Mixed run for Question 1
Average Total Speed

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	116	**Sum Weights**	116
Mean	0	**Sum Observations**	0
Std Deviation	0.03179768	**Variance**	0.00101109
Skewness	0.75058659	**Kurtosis**	2.01501513
Uncorrected SS	0.11627565	**Corrected SS**	0.11627565
Coeff Variation	.	**Std Error Mean**	0.00295234

Basic Statistical Measures

Location		**Variability**	
Mean	0.00000	**Std Deviation**	0.03180
Median	-0.00151	**Variance**	0.00101
Mode	-0.00000	**Range**	0.19127
		Interquartile Range	0.02398

Tests for Location: Mu0=0

Test		**Statistic**	**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	-8	**Pr >= |M|**	0.1634
Signed Rank	**S**	-355	**Pr >= |S|**	0.3302

Tests for Normality

Test		**Statistic**	**p Value**	
Shapiro-Wilk	**W**	0.936347	**Pr < W**	<0.0001
Kolmogorov-Smirnov	**D**	0.139835	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.557623	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	2.819798	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

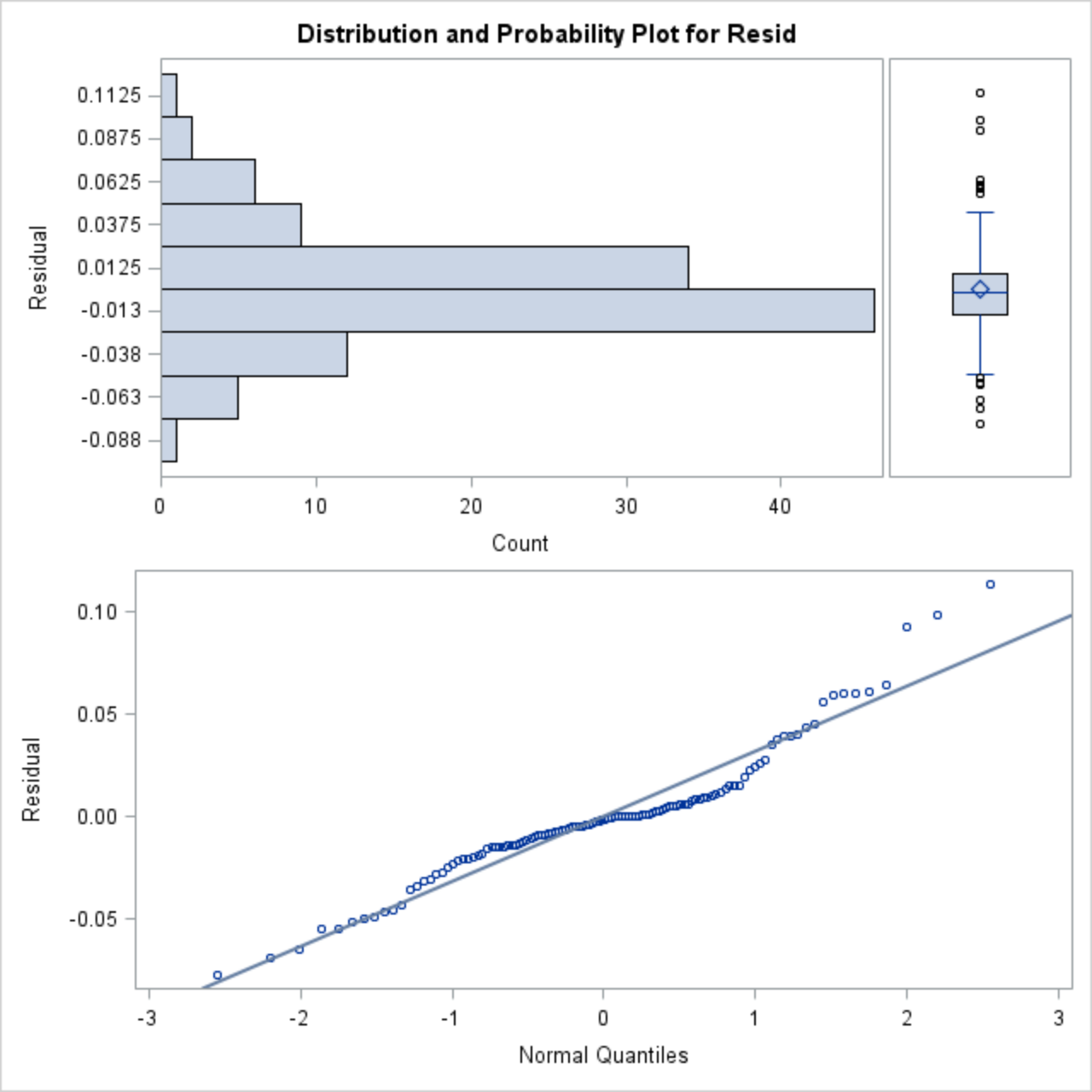
Quantile	**Estimate**
100% Max	0.11367534

Quantiles (Definition 5)

Quantile	Estimate
99%	0.09846843
95%	0.06049348
90%	0.04025740
75% Q3	0.00947736
50% Median	-0.00150502
25% Q1	-0.01450740
10%	-0.03566700
5%	-0.05172013
1%	-0.06908204
0% Min	-0.07759353

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.0775935	75	0.0609366	80
-0.0690820	19	0.0640268	20
-0.0645071	97	0.0925272	74
-0.0553123	94	0.0984684	10
-0.0545331	1	0.1136753	100



Mixed run for Question 1

Average Speed off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	ASORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	47
Subjects	1
Max Obs Per Subject	116

Number of Observations

Number of Observations Read	116
Number of Observations Used	116
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-196.10255066	
1	2	-199.45048840	0.00096519
2	1	-199.64502500	0.00006770
3	1	-199.65753895	0.00000043
4	1	-199.65761444	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.003108	0.002308	1.35	0.0890	0.05	0.001075	0.03015

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
Residual	0.002848	0.000495	5.76	<.0001	0.05	0.002081	0.004134

Fit Statistics

-2 Res Log Likelihood	-199.7
AIC (smaller is better)	-195.7
AICC (smaller is better)	-195.5
BIC (smaller is better)	-192.0

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	1.47	0.2235

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	0.5098	0.02797	14	18.23	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	1.89	0.1679
7 vs ave(17,28,32)	1	14	5.72	0.0314
20 vs ave(17,28,32)	1	14	0.01	0.9300

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**7**	**0.3958**	**0.03859**	**14**	**10.26**	**<.0001**	**0.05**	**0.3130**	**0.4786**
PLTNo	**17**	**0.5618**	**0.05073**	**14**	**11.07**	**<.0001**	**0.05**	**0.4530**	**0.6706**
PLTNo	**20**	**0.5046**	**0.05073**	**14**	**9.95**	**<.0001**	**0.05**	**0.3958**	**0.6134**
PLTNo	**28**	**0.4824**	**0.05457**	**14**	**8.84**	**<.0001**	**0.05**	**0.3654**	**0.5994**
PLTNo	**32**	**0.4850**	**0.03859**	**14**	**12.57**	**<.0001**	**0.05**	**0.4023**	**0.5678**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**7**	**17**	**-0.1660**	**0.06374**	**14**	**-2.60**	**0.0208**	**Bonferroni**	**1.0000**	**0.05**	**-0.3027**	**-0.02932**	**-0.5098**	**0.1778**
PLTNo	**7**	**20**	**-0.1088**	**0.06374**	**14**	**-1.71**	**0.1100**	**Bonferroni**	**1.0000**	**0.05**	**-0.2455**	**0.02794**	**-0.4526**	**0.2350**

PLTNo	**7**	**28**	**-0.08659**	**0.06684**	**14**	**-1.30**	**0.2161**	**Bonferroni**	**1.0000**	**0.05**	**-0.2299**	**0.05676**	**-0.4471**	**0.2739**
PLTNo	**7**	**32**	**-0.08923**	**0.05457**	**14**	**-1.64**	**0.1243**	**Bonferroni**	**1.0000**	**0.05**	**-0.2063**	**0.02782**	**-0.3836**	**0.2051**
PLTNo	**17**	**20**	**0.05726**	**0.07175**	**14**	**0.80**	**0.4381**	**Bonferroni**	**1.0000**	**0.05**	**-0.09662**	**0.2111**	**-0.3297**	**0.4442**
PLTNo	**17**	**28**	**0.07944**	**0.07451**	**14**	**1.07**	**0.3044**	**Bonferroni**	**1.0000**	**0.05**	**-0.08037**	**0.2392**	**-0.3224**	**0.4813**
PLTNo	**17**	**32**	**0.07680**	**0.06374**	**14**	**1.20**	**0.2482**	**Bonferroni**	**1.0000**	**0.05**	**-0.05991**	**0.2135**	**-0.2670**	**0.4206**
PLTNo	**20**	**28**	**0.02218**	**0.07451**	**14**	**0.30**	**0.7703**	**Bonferroni**	**1.0000**	**0.05**	**-0.1376**	**0.1820**	**-0.3797**	**0.4241**
PLTNo	**20**	**32**	**0.01954**	**0.06374**	**14**	**0.31**	**0.7637**	**Bonferroni**	**1.0000**	**0.05**	**-0.1172**	**0.1562**	**-0.3242**	**0.3633**
PLTNo	**28**	**32**	**-0.00264**	**0.06684**	**14**	**-0.04**	**0.9691**	**Bonferroni**	**1.0000**	**0.05**	**-0.1460**	**0.1407**	**-0.3631**	**0.3578**

Mixed run for Question 1
Average Speed off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	116	**Sum Weights**	116
Mean	0	**Sum Observations**	0
Std Deviation	0.04308077	**Variance**	0.00185595
Skewness	0.40703085	**Kurtosis**	1.4192008
Uncorrected SS	0.21343458	**Corrected SS**	0.21343458
Coeff Variation	.	**Std Error Mean**	0.00399995

Basic Statistical Measures

Location		**Variability**	
Mean	0.00000	**Std Deviation**	0.04308
Median	-0.00017	**Variance**	0.00186
Mode	.	**Range**	0.24277
		Interquartile Range	0.04440

Tests for Location: Mu0=0

Test	**Statistic**	**p Value**

Tests for Location: Mu0=0

Test		Statistic		p Value
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	0	**Pr >= |M|**	1.0000
Signed Rank	**S**	-61.5	**Pr >= |S|**	0.8663

Tests for Normality

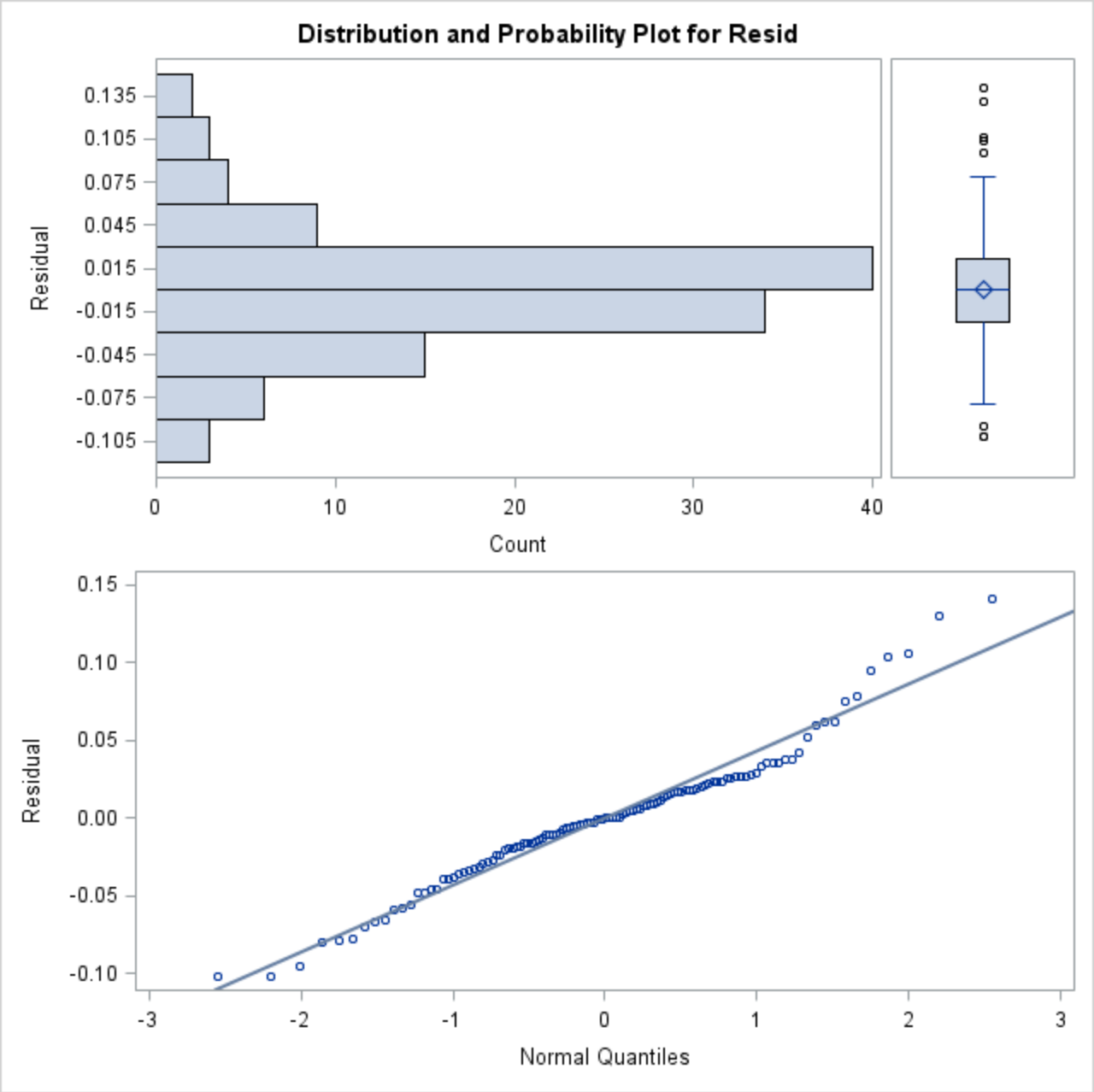
Test		Statistic		p Value
Shapiro-Wilk	**W**	0.965279	**Pr < W**	0.0042
Kolmogorov-Smirnov	**D**	0.098608	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.199109	**Pr > W-Sq**	0.0052
Anderson-Darling	**A-Sq**	1.234954	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.140749638
99%	0.130594391
95%	0.078937156
90%	0.041969867
75% Q3	0.022100325
50% Median	-0.000166962
25% Q1	-0.022304657
10%	-0.055426317
5%	-0.077359938
1%	-0.101763896
0% Min	-0.102020866

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.1020209	116	0.0952329	88
-0.1017639	94	0.1036196	93
-0.0951276	40	0.1064194	77
-0.0795641	107	0.1305944	10
-0.0792241	85	0.1407496	105



Mixed run for Question 1

%off Road time with Turing Radius less than 30m

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ORTTR
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Number of Observations Read	116
Number of Observations Used	116

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	47
Subjects (Blocks in V)	1
Max Obs per Subject	116

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**2**	0.3920822754	0.12113683	73.10504
1	**0**	**1**	0.5943356354	0.00153643	72.7267

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
2	**0**	**0**	0.5947968276	0.00000000	72.72408

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	0.59
Generalized Chi-Square	83.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Scale	115.30	18.0533

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	6.12	0.0004

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	0.3421	0.06575	14	5.20	0.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	8.63	0.0010
7 vs ave(17,28,32)	1	14	26.07	0.0002
20 vs ave(17,28,32)	1	14	0.78	0.3921

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
7	**0.9696**	**0.1038**	**14**	**9.34**	**<.0001**	**0.05**	**0.7469**	**1.1923**	**0.7250**	**0.02070**	**0.6785**	**0.7672**
17	**0.2165**	**0.1077**	**14**	**2.01**	**0.0641**	**0.05**	**-0.01450**	**0.4475**	**0.5539**	**0.02661**	**0.4964**	**0.6100**
20	**0.4551**	**0.1099**	**14**	**4.14**	**0.0010**	**0.05**	**0.2195**	**0.6908**	**0.6119**	**0.02609**	**0.5547**	**0.6661**
28	**0.5572**	**0.1363**	**14**	**4.09**	**0.0011**	**0.05**	**0.2649**	**0.8494**	**0.6358**	**0.03155**	**0.5658**	**0.7004**

32	**0.2526**	**0.09347**	**14**	**2.70**	**0.0172**	**0.05**	**0.05217**	**0.4531**	**0.5628**	**0.02300**	**0.5130**	**0.6114**

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
7	**17**	**0.7531**	**0.1496**	**14**	**5.03**	**0.0002**	**0.0964**	**0.05**	**0.4322**	**1.0740**	**-0.05380**	**1.5600**
7	**20**	**0.5145**	**0.1512**	**14**	**3.40**	**0.0043**	**1.0000**	**0.05**	**0.1902**	**0.8387**	**-0.3009**	**1.3298**
7	**28**	**0.4124**	**0.1713**	**14**	**2.41**	**0.0304**	**1.0000**	**0.05**	**0.04501**	**0.7799**	**-0.5116**	**1.3365**
7	**32**	**0.7170**	**0.1397**	**14**	**5.13**	**0.0002**	**0.0805**	**0.05**	**0.4173**	**1.0166**	**-0.03657**	**1.4705**
17	**20**	**-0.2387**	**0.1538**	**14**	**-1.55**	**0.1431**	**1.0000**	**0.05**	**-0.5686**	**0.09130**	**-1.0684**	**0.5911**
17	**28**	**-0.3407**	**0.1737**	**14**	**-1.96**	**0.0700**	**1.0000**	**0.05**	**-0.7132**	**0.03183**	**-1.2775**	**0.5961**
17	**32**	**-0.03615**	**0.1426**	**14**	**-0.25**	**0.8036**	**1.0000**	**0.05**	**-0.3420**	**0.2697**	**-0.8053**	**0.7330**
20	**28**	**-0.1020**	**0.1750**	**14**	**-0.58**	**0.5692**	**1.0000**	**0.05**	**-0.4774**	**0.2734**	**-1.0461**	**0.8420**
20	**32**	**0.2025**	**0.1442**	**14**	**1.40**	**0.1821**	**1.0000**	**0.05**	**-0.1069**	**0.5119**	**-0.5755**	**0.9805**
28	**32**	**0.3045**	**0.1652**	**14**	**1.84**	**0.0866**	**1.0000**	**0.05**	**-0.04987**	**0.6589**	**-0.5867**	**1.1957**

Mixed run for Question 1
Total Distance Traveled

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	TDT
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Number of Observations Read	116
Number of Observations Used	116

Dimensions

G-side Cov. Parameters	1

Dimensions

R-side Cov. Parameters	1
Columns in X	34
Columns in Z	47
Subjects (Blocks in V)	1
Max Obs per Subject	116

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	114.72712755	2.00000000	4.484E-8
1	**0**	**6**	96.658401035	0.35265670	3.717E-8
2	**0**	**4**	97.647868436	0.06024129	3.083E-8
3	**0**	**2**	97.865455729	0.02530665	0.000023
4	**0**	**2**	97.806716199	0.00803093	3.609E-6
5	**0**	**2**	97.845342955	0.00466914	6.998E-7
6	**0**	**2**	97.834006604	0.00153220	2.485E-8
7	**0**	**1**	97.841303779	0.00088408	4.864E-6
8	**0**	**1**	97.839094124	0.00029790	5.545E-7
9	**0**	**1**	97.840475705	0.00016758	1.751E-7
10	**0**	**1**	97.840043939	0.00005766	2.064E-8
11	**0**	**1**	97.840305585	0.00003184	6.275E-9
12	**0**	**1**	97.840221523	0.00001116	6.7E-10
13	**0**	**1**	97.840271122	0.00000605	1.67E-10
14	**0**	**0**	97.840254783	0.00000119	8.125E-6
15	**0**	**0**	97.84026489	0.00000021	4.08E-6
16	**0**	**0**	97.840263147	0.00000012	4.792E-6
17	**0**	**0**	97.840264103	0.00000002	4.404E-6
18	**0**	**0**	97.840263932	0.00000001	4.473E-6
19	**0**	**0**	97.840264026	0.00000000	4.435E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	97.84
Generalized Chi-Square	8.59
Gener. Chi-Square / DF	0.10

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.1037	0.07031
Residual	0.1034	0.01754

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	1.85	0.1116

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	11.1553	0.1647	14	67.74	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	2.76	0.0698
7 vs ave(17,28,32)	1	14	1.34	0.2659
20 vs ave(17,28,32)	1	14	0.21	0.6536

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
7	**10.8298**	**0.2275**	**14**	**47.59**	**<.0001**	**0.05**	**10.3418**	**11.3178**	**50504**	**11492**	**31001**	**82276**
17	**11.6188**	**0.2980**	**14**	**39.00**	**<.0001**	**0.05**	**10.9797**	**12.2578**	**111168**	**33123**	**58674**	**210628**
20	**11.3115**	**0.2980**	**14**	**37.96**	**<.0001**	**0.05**	**10.6724**	**11.9505**	**81753**	**24359**	**43149**	**154896**
28	**10.4336**	**0.3218**	**14**	**32.42**	**<.0001**	**0.05**	**9.7434**	**11.1238**	**33982**	**10935**	**17041**	**67762**
32	**11.4137**	**0.2275**	**14**	**50.16**	**<.0001**	**0.05**	**10.9256**	**11.9017**	**90551**	**20604**	**55583**	**147517**

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
7	**17**	**-0.7890**	**0.3749**	**14**	**-2.10**	**0.0539**	**1.0000**	**0.05**	**-1.5931**	**0.01510**	**-2.8111**	**1.2331**
7	**20**	**-0.4817**	**0.3749**	**14**	**-1.28**	**0.2197**	**1.0000**	**0.05**	**-1.2857**	**0.3224**	**-2.5037**	**1.5404**
7	**28**	**0.3962**	**0.3941**	**14**	**1.01**	**0.3318**	**1.0000**	**0.05**	**-0.4491**	**1.2415**	**-1.7295**	**2.5219**

7	**32**	**-0.5839**	**0.3218**	**14**	**-1.81**	**0.0911**	**1.0000**	**0.05**	**-1.2740**	**0.1063**	**-2.3195**	**1.1518**
17	**20**	**0.3073**	**0.4214**	**14**	**0.73**	**0.4778**	**1.0000**	**0.05**	**-0.5964**	**1.2111**	**-1.9654**	**2.5801**
17	**28**	**1.1852**	**0.4386**	**14**	**2.70**	**0.0172**	**1.0000**	**0.05**	**0.2446**	**2.1258**	**-1.1802**	**3.5506**
17	**32**	**0.2051**	**0.3749**	**14**	**0.55**	**0.5929**	**1.0000**	**0.05**	**-0.5990**	**1.0092**	**-1.8170**	**2.2272**
20	**28**	**0.8779**	**0.4386**	**14**	**2.00**	**0.0651**	**1.0000**	**0.05**	**-0.06272**	**1.8185**	**-1.4875**	**3.2433**
20	**32**	**-0.1022**	**0.3749**	**14**	**-0.27**	**0.7891**	**1.0000**	**0.05**	**-0.9063**	**0.7019**	**-2.1243**	**1.9199**
28	**32**	**-0.9801**	**0.3941**	**14**	**-2.49**	**0.0261**	**1.0000**	**0.05**	**-1.8254**	**-0.1348**	**-3.1058**	**1.1456**

Mixed run for Question 1
Distance Travled off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	DTOR
Response Distribution	Gamma
Link Function	Log
Variance Function	Default

Model Information

Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Number of Observations Read	116
Number of Observations Used	116

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	47
Subjects (Blocks in V)	1
Max Obs per Subject	116

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**3**	161.34804787	1.08937058	1.147E-6
1	**0**	**6**	127.87670334	0.74315675	1.163E-7
2	**0**	**4**	131.73008571	0.08655210	1E-7
3	**0**	**3**	132.25928202	0.03268462	1.022E-7
4	**0**	**2**	132.22526672	0.00358496	1.427E-7
5	**0**	**2**	132.2597039	0.00289942	3.582E-7
6	**0**	**1**	132.25862061	0.00033550	1.834E-9

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
7	**0**	**1**	132.26167928	0.00026628	1.222E-6
8	**0**	**1**	132.26177762	0.00003293	5.184E-9
9	**0**	**1**	132.26206543	0.00002563	1.139E-8
10	**0**	**1**	132.2620932	0.00000336	1.45E-10
11	**0**	**1**	132.26212155	0.00000258	1.881E-9
12	**0**	**0**	132.26212598	0.00000035	1.971E-6
13	**0**	**0**	132.26212879	0.00000005	3.04E-6
14	**0**	**0**	132.26212899	0.00000002	3.151E-6
15	**0**	**0**	132.26212908	0.00000000	3.194E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	132.26
Generalized Chi-Square	13.78
Gener. Chi-Square / DF	0.17

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.07926	0.07525
Residual	0.1660	0.02787

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	4.28	0.0029

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	8.5025	0.1769	14	48.07	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	5.76	0.0059
7 vs ave(17,28,32)	1	14	5.37	0.0361
20 vs ave(17,28,32)	1	14	0.02	0.8847

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean

7	7.7971	0.2476	14	31.49	<.0001	0.05	7.2661	8.3282	2433.63	602.61	1430.89	4139.05
17	8.7572	0.3125	14	28.02	<.0001	0.05	8.0870	9.4275	6356.43	1986.34	3251.89	12425
20	8.5555	0.3125	14	27.38	<.0001	0.05	7.8853	9.2257	5195.17	1623.45	2657.80	10155
28	7.5691	0.3502	14	21.61	<.0001	0.05	6.8180	8.3202	1937.40	678.44	914.19	4105.84
32	9.1810	0.2476	14	37.08	<.0001	0.05	8.6499	9.7121	9711.17	2404.64	5709.85	16517

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
7	17	-0.9601	0.3987	14	-2.41	0.0304	1.0000	0.05	-1.8152	-0.1049	-3.1105	1.1904
7	20	-0.7583	0.3987	14	-1.90	0.0779	1.0000	0.05	-1.6135	0.09679	-2.9088	1.3921
7	28	0.2280	0.4289	14	0.53	0.6033	1.0000	0.05	-0.6918	1.1479	-2.0852	2.5413
7	32	-1.3839	0.3502	14	-3.95	0.0014	0.7636	0.05	-2.1350	-0.6328	-3.2726	0.5049
17	20	0.2017	0.4419	14	0.46	0.6550	1.0000	0.05	-0.7461	1.1496	-2.1819	2.5853
17	28	1.1881	0.4693	14	2.53	0.0240	1.0000	0.05	0.1815	2.1948	-1.3433	3.7196
17	32	-0.4238	0.3987	14	-1.06	0.3058	1.0000	0.05	-1.2789	0.4313	-2.5743	1.7266
20	28	0.9864	0.4693	14	2.10	0.0542	1.0000	0.05	-0.02025	1.9930	-1.5450	3.5178
20	32	-0.6255	0.3987	14	-1.57	0.1390	1.0000	0.05	-1.4807	0.2296	-2.7760	1.5249
28	32	-1.6119	0.4289	14	-3.76	0.0021	1.0000	0.05	-2.5318	-0.6921	-3.9252	0.7013

Mixed run for Question 1
Average Total Speed

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ATS
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Number of Observations Read	116
Number of Observations Used	116

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	47
Subjects (Blocks in V)	1
Max Obs per Subject	116

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1

Optimization Information

Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**4**	-105.4887797	1.08294662	3.986E-8
1	**0**	**2**	-106.1648576	0.01763441	0.00001
2	**0**	**1**	-106.1679666	0.00102580	2.41E-6
3	**0**	**1**	-106.1663953	0.00016292	6.074E-8
4	**0**	**1**	-106.1666104	0.00002195	1.368E-9
5	**0**	**1**	-106.1665779	0.00000331	4.13E-10
6	**0**	**0**	-106.1665826	0.00000018	1.49E-6
7	**0**	**0**	-106.1665821	0.00000001	1.334E-6
8	**0**	**0**	-106.1665822	0.00000000	1.347E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-106.17
Generalized Chi-Square	0.72
Gener. Chi-Square / DF	0.01

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.01062	0.007107
Residual	0.008686	0.001492

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	1.59	0.1784

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	1.7960	0.05045	14	35.60	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	3.81	0.0269
7 vs ave(17,28,32)	1	14	11.35	0.0046
20 vs ave(17,28,32)	1	14	0.28	0.6019

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
7	**2.0852**	**0.06947**	**14**	**30.02**	**<.0001**	**0.05**	**1.9362**	**2.2342**	**8.0464**	**0.5590**	**6.9326**	**9.3392**
17	**1.8808**	**0.09181**	**14**	**20.49**	**<.0001**	**0.05**	**1.6839**	**2.0777**	**6.5587**	**0.6021**	**5.3864**	**7.9860**
20	**1.8519**	**0.09181**	**14**	**20.17**	**<.0001**	**0.05**	**1.6550**	**2.0488**	**6.3722**	**0.5850**	**5.2333**	**7.7589**
28	**1.6269**	**0.09824**	**14**	**16.56**	**<.0001**	**0.05**	**1.4162**	**1.8376**	**5.0879**	**0.4999**	**4.1213**	**6.2813**
32	**1.8804**	**0.06947**	**14**	**27.07**	**<.0001**	**0.05**	**1.7314**	**2.0294**	**6.5563**	**0.4555**	**5.6488**	**7.6097**

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
7	**17**	**0.2044**	**0.1151**	**14**	**1.78**	**0.0975**	**1.0000**	**0.05**	**-0.04248**	**0.4514**	**-0.4165**	**0.8254**
7	**20**	**0.2333**	**0.1151**	**14**	**2.03**	**0.0622**	**1.0000**	**0.05**	**-0.01364**	**0.4802**	**-0.3877**	**0.8542**
7	**28**	**0.4584**	**0.1203**	**14**	**3.81**	**0.0019**	**1.0000**	**0.05**	**0.2003**	**0.7164**	**-0.1906**	**1.1073**
7	**32**	**0.2048**	**0.09824**	**14**	**2.08**	**0.0559**	**1.0000**	**0.05**	**-0.00592**	**0.4155**	**-0.3251**	**0.7347**
17	**20**	**0.02884**	**0.1298**	**14**	**0.22**	**0.8274**	**1.0000**	**0.05**	**-0.2496**	**0.3073**	**-0.6714**	**0.7291**
17	**28**	**0.2539**	**0.1345**	**14**	**1.89**	**0.0799**	**1.0000**	**0.05**	**-0.03448**	**0.5423**	**-0.4713**	**0.9791**
17	**32**	**0.000352**	**0.1151**	**14**	**0.00**	**0.9976**	**1.0000**	**0.05**	**-0.2466**	**0.2473**	**-0.6206**	**0.6213**
20	**28**	**0.2251**	**0.1345**	**14**	**1.67**	**0.1163**	**1.0000**	**0.05**	**-0.06332**	**0.5135**	**-0.5002**	**0.9503**
20	**32**	**-0.02849**	**0.1151**	**14**	**-0.25**	**0.8081**	**1.0000**	**0.05**	**-0.2754**	**0.2184**	**-0.6494**	**0.5925**
28	**32**	**-0.2536**	**0.1203**	**14**	**-2.11**	**0.0536**	**1.0000**	**0.05**	**-0.5116**	**0.004507**	**-0.9025**	**0.3954**

Mixed run for Question 1
Average Speed off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ASOR
Response Distribution	Gamma

Model Information

Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	47	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7 6_32 6_7 7_17

Number of Observations Read	116
Number of Observations Used	116

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	47
Subjects (Blocks in V)	1
Max Obs per Subject	116

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**4**	-58.91272952	0.30874832	2.744E-6
1	**0**	**2**	-58.939354	0.02179571	0.000013
2	**0**	**2**	-58.99664267	0.00914126	1.672E-6
3	**0**	**2**	-59.01177743	0.00214117	2.144E-8
4	**0**	**1**	-59.01658144	0.00069931	1.325E-6

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
5	**0**	**1**	-59.01792922	0.00019411	1.02E-7
6	**0**	**1**	-59.01833112	0.00005818	9.248E-9
7	**0**	**1**	-59.01844743	0.00001678	1.01E-9
8	**0**	**1**	-59.01848156	0.00000493	1.19E-9
9	**0**	**0**	-59.01849151	0.00000073	3.964E-6
10	**0**	**0**	-59.0184933	0.00000007	4.745E-6
11	**0**	**0**	-59.01849351	0.00000001	4.84E-6
12	**0**	**0**	-59.01849354	0.00000000	4.855E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-59.02
Generalized Chi-Square	1.32
Gener. Chi-Square / DF	0.02

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.01320	0.01145
Residual	0.01589	0.002778

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	14	1.69	0.1477

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(17,28,32)	1.1800	0.06152	14	19.18	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	4	14	2.11	0.1337
7 vs ave(17,28,32)	1	14	6.44	0.0237
20 vs ave(17,28,32)	1	14	0.02	0.9040

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
7	**0.9131**	**0.08528**	**14**	**10.71**	**<.0001**	**0.05**	**0.7302**	**1.0960**	**2.4920**	**0.2125**	**2.0754**	**2.9921**

17	1.2967	0.1107	14	11.72	<.0001	0.05	1.0593	1.5340	3.6571	0.4047	2.8844	4.6367
20	1.1644	0.1107	14	10.52	<.0001	0.05	0.9271	1.4018	3.2041	0.3546	2.5272	4.0624
28	1.1127	0.1206	14	9.23	<.0001	0.05	0.8541	1.3714	3.0427	0.3670	2.3492	3.9410
32	1.1305	0.08528	14	13.26	<.0001	0.05	0.9476	1.3134	3.0973	0.2642	2.5796	3.7190

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
7	17	-0.3836	0.1397	14	-2.75	0.0158	1.0000	0.05	-0.6832	-0.08394	-1.1371	0.3700
7	20	-0.2514	0.1397	14	-1.80	0.0936	1.0000	0.05	-0.5510	0.04829	-1.0049	0.5022
7	28	-0.1997	0.1477	14	-1.35	0.1979	1.0000	0.05	-0.5165	0.1171	-0.9964	0.5970
7	32	-0.2175	0.1206	14	-1.80	0.0929	1.0000	0.05	-0.4761	0.04122	-0.8680	0.4331
17	20	0.1322	0.1565	14	0.84	0.4124	1.0000	0.05	-0.2034	0.4679	-0.7119	0.9763
17	28	0.1839	0.1637	14	1.12	0.2801	1.0000	0.05	-0.1672	0.5350	-0.6989	1.0668
17	32	0.1661	0.1397	14	1.19	0.2542	1.0000	0.05	-0.1335	0.4658	-0.5874	0.9197
20	28	0.05169	0.1637	14	0.32	0.7568	1.0000	0.05	-0.2994	0.4028	-0.8312	0.9345
20	32	0.03390	0.1397	14	0.24	0.8118	1.0000	0.05	-0.2657	0.3335	-0.7196	0.7874
28	32	-0.01778	0.1477	14	-0.12	0.9059	1.0000	0.05	-0.3346	0.2990	-0.8145	0.7789

Mixed run for Question 2
%of Training Time Spent Moving

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctTTMove
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	110.55116681	2.00000000	45.47742
1	**0**	**5**	124.48949849	2.00000000	43.28187
2	**0**	**3**	126.00411064	0.01551018	42.9832
3	**0**	**1**	126.02838748	0.00024664	42.97501
4	**0**	**1**	126.02839857	0.00003664	42.9754
5	**0**	**0**	126.02839857	0.00000000	42.9754

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	126.03
Generalized Chi-Square	80.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Scale	102.35	16.3405

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	2.39	0.0632

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	-2.9174	0.1108	11	-26.33	<.0001
ave(18,19,21,22,23,25)	-2.7812	0.08727	11	-31.87	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	1.84	0.1638
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	0.93	0.3549

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
8	**-3.1958**	**0.2922**	**11**	**-10.94**	**<.0001**	**0.05**	**-3.8389**	**-2.5527**	**0.03933**	**0.01104**	**0.02106**	**0.07225**
9	**-2.8079**	**0.2123**	**11**	**-13.22**	**<.0001**	**0.05**	**-3.2753**	**-2.3406**	**0.05690**	**0.01139**	**0.03643**	**0.08781**
10	**-3.2554**	**0.3679**	**11**	**-8.85**	**<.0001**	**0.05**	**-4.0650**	**-2.4458**	**0.03713**	**0.01315**	**0.01687**	**0.07975**
11	**-2.5297**	**0.1881**	**11**	**-13.45**	**<.0001**	**0.05**	**-2.9437**	**-2.1156**	**0.07380**	**0.01286**	**0.05003**	**0.1076**
12	**-2.8686**	**0.2181**	**11**	**-13.15**	**<.0001**	**0.05**	**-3.3487**	**-2.3885**	**0.05373**	**0.01109**	**0.03394**	**0.08405**
13	**-2.8471**	**0.3055**	**11**	**-9.32**	**<.0001**	**0.05**	**-3.5195**	**-2.1746**	**0.05483**	**0.01583**	**0.02876**	**0.1021**
18	**-2.5683**	**0.1913**	**11**	**-13.43**	**<.0001**	**0.05**	**-2.9892**	**-2.1474**	**0.07121**	**0.01265**	**0.04791**	**0.1046**
19	**-2.7144**	**0.2037**	**11**	**-13.32**	**<.0001**	**0.05**	**-3.1628**	**-2.2659**	**0.06213**	**0.01187**	**0.04059**	**0.09399**
21	**-3.0698**	**0.2389**	**11**	**-12.85**	**<.0001**	**0.05**	**-3.5955**	**-2.5441**	**0.04437**	**0.01013**	**0.02671**	**0.07283**
22	**-3.0265**	**0.2342**	**11**	**-12.92**	**<.0001**	**0.05**	**-3.5419**	**-2.5110**	**0.04624**	**0.01033**	**0.02814**	**0.07509**
23	**-2.2609**	**0.1682**	**11**	**-13.44**	**<.0001**	**0.05**	**-2.6311**	**-1.8907**	**0.09441**	**0.01438**	**0.06716**	**0.1312**
25	**-3.0472**	**0.2364**	**11**	**-12.89**	**<.0001**	**0.05**	**-3.5675**	**-2.5269**	**0.04534**	**0.01023**	**0.02745**	**0.07400**

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
8	**9**	**-0.3878**	**0.3612**	**11**	**-1.07**	**0.3059**	**1.0000**	**0.05**	**-1.1828**	**0.4071**	**-2.5401**	**1.7645**
8	**10**	**0.05963**	**0.4698**	**11**	**0.13**	**0.9013**	**1.0000**	**0.05**	**-0.9743**	**1.0936**	**-2.7397**	**2.8590**
8	**11**	**-0.6661**	**0.3475**	**11**	**-1.92**	**0.0816**	**1.0000**	**0.05**	**-1.4309**	**0.09879**	**-2.7369**	**1.4047**
8	**12**	**-0.3271**	**0.3646**	**11**	**-0.90**	**0.3888**	**1.0000**	**0.05**	**-1.1297**	**0.4754**	**-2.5000**	**1.8457**
8	**13**	**-0.3487**	**0.4228**	**11**	**-0.82**	**0.4270**	**1.0000**	**0.05**	**-1.2792**	**0.5818**	**-2.8679**	**2.1705**
8	**18**	**-0.6275**	**0.3492**	**11**	**-1.80**	**0.0998**	**1.0000**	**0.05**	**-1.3961**	**0.1412**	**-2.7084**	**1.4535**
8	**19**	**-0.4814**	**0.3562**	**11**	**-1.35**	**0.2037**	**1.0000**	**0.05**	**-1.2654**	**0.3026**	**-2.6041**	**1.6413**

8	21	-0.1260	0.3774	11	-0.33	0.7448	1.0000	0.05	-0.9566	0.7046	-2.3748	2.1229
8	22	-0.1693	0.3745	11	-0.45	0.6600	1.0000	0.05	-0.9935	0.6549	-2.4007	2.0621
8	23	-0.9348	0.3371	11	-2.77	0.0181	1.0000	0.05	-1.6769	-0.1928	-2.9439	1.0742
8	25	-0.1486	0.3759	11	-0.40	0.7002	1.0000	0.05	-0.9758	0.6787	-2.3882	2.0911
9	10	0.4475	0.4247	11	1.05	0.3147	1.0000	0.05	-0.4874	1.3823	-2.0835	2.9784
9	11	-0.2783	0.2837	11	-0.98	0.3477	1.0000	0.05	-0.9026	0.3461	-1.9686	1.4121
9	12	0.06068	0.3044	11	0.20	0.8456	1.0000	0.05	-0.6093	0.7307	-1.7533	1.8746
9	13	0.03911	0.3721	11	0.11	0.9182	1.0000	0.05	-0.7798	0.8580	-2.1780	2.2562
9	18	-0.2396	0.2858	11	-0.84	0.4195	1.0000	0.05	-0.8686	0.3893	-1.9425	1.4632
9	19	-0.09358	0.2943	11	-0.32	0.7564	1.0000	0.05	-0.7413	0.5541	-1.8471	1.6600
9	21	0.2618	0.3196	11	0.82	0.4300	1.0000	0.05	-0.4416	0.9652	-1.6425	2.1662
9	22	0.2185	0.3161	11	0.69	0.5037	1.0000	0.05	-0.4772	0.9143	-1.6652	2.1022
9	23	-0.5470	0.2709	11	-2.02	0.0685	1.0000	0.05	-1.1432	0.04918	-2.1612	1.0671
9	25	0.2393	0.3178	11	0.75	0.4673	1.0000	0.05	-0.4601	0.9386	-1.6542	2.1328
10	11	-0.7257	0.4132	11	-1.76	0.1068	1.0000	0.05	-1.6351	0.1837	-3.1877	1.7363
10	12	-0.3868	0.4277	11	-0.90	0.3852	1.0000	0.05	-1.3281	0.5545	-2.9352	2.1616
10	13	-0.4083	0.4782	11	-0.85	0.4113	1.0000	0.05	-1.4608	0.6441	-3.2578	2.4411
10	18	-0.6871	0.4146	11	-1.66	0.1257	1.0000	0.05	-1.5996	0.2254	-3.1577	1.7835
10	19	-0.5410	0.4205	11	-1.29	0.2246	1.0000	0.05	-1.4666	0.3845	-3.0468	1.9647
10	21	-0.1856	0.4386	11	-0.42	0.6803	1.0000	0.05	-1.1510	0.7797	-2.7992	2.4279
10	22	-0.2289	0.4361	11	-0.52	0.6100	1.0000	0.05	-1.1887	0.7309	-2.8275	2.3696
10	23	-0.9945	0.4045	11	-2.46	0.0318	1.0000	0.05	-1.8847	-0.1042	-3.4048	1.4158
10	25	-0.2082	0.4373	11	-0.48	0.6433	1.0000	0.05	-1.1706	0.7542	-2.8138	2.3975
11	12	0.3389	0.2880	11	1.18	0.2642	1.0000	0.05	-0.2951	0.9729	-1.3775	2.0554
11	13	0.3174	0.3588	11	0.88	0.3954	1.0000	0.05	-0.4724	1.1071	-1.8207	2.4554
11	18	0.03861	0.2683	11	0.14	0.8882	1.0000	0.05	-0.5518	0.6291	-1.5600	1.6372
11	19	0.1847	0.2773	11	0.67	0.5192	1.0000	0.05	-0.4257	0.7950	-1.4678	1.8372
11	21	0.5401	0.3040	11	1.78	0.1033	1.0000	0.05	-0.1291	1.2093	-1.2716	2.3518
11	22	0.4968	0.3004	11	1.65	0.1264	1.0000	0.05	-0.1644	1.1579	-1.2932	2.2868
11	23	-0.2688	0.2524	11	-1.07	0.3097	1.0000	0.05	-0.8242	0.2867	-1.7725	1.2350
11	25	0.5175	0.3021	11	1.71	0.1147	1.0000	0.05	-0.1475	1.1825	-1.2828	2.3178
12	13	-0.02157	0.3754	11	-0.06	0.9552	1.0000	0.05	-0.8478	0.8047	-2.2586	2.2155
12	18	-0.3003	0.2901	11	-1.04	0.3228	1.0000	0.05	-0.9388	0.3382	-2.0290	1.4284
12	19	-0.1543	0.2985	11	-0.52	0.6155	1.0000	0.05	-0.8112	0.5027	-1.9329	1.6244
12	21	0.2012	0.3235	11	0.62	0.5467	1.0000	0.05	-0.5108	0.9131	-1.7264	2.1287
12	22	0.1579	0.3200	11	0.49	0.6316	1.0000	0.05	-0.5466	0.8623	-1.7493	2.0650
12	23	-0.6077	0.2755	11	-2.21	0.0496	1.0000	0.05	-1.2140	-0.00142	-2.2491	1.0337
12	25	0.1786	0.3217	11	0.56	0.5899	1.0000	0.05	-0.5294	0.8866	-1.7382	2.0954

13	**18**	**-0.2787**	**0.3605**	**11**	**-0.77**	**0.4556**	**1.0000**	**0.05**	**-1.0721**	**0.5146**	**-2.4267**	**1.8692**
13	**19**	**-0.1327**	**0.3672**	**11**	**-0.36**	**0.7247**	**1.0000**	**0.05**	**-0.9410**	**0.6756**	**-2.3210**	**2.0557**
13	**21**	**0.2227**	**0.3878**	**11**	**0.57**	**0.5773**	**1.0000**	**0.05**	**-0.6308**	**1.0763**	**-2.0882**	**2.5337**
13	**22**	**0.1794**	**0.3850**	**11**	**0.47**	**0.6503**	**1.0000**	**0.05**	**-0.6679**	**1.0267**	**-2.1145**	**2.4734**
13	**23**	**-0.5861**	**0.3488**	**11**	**-1.68**	**0.1210**	**1.0000**	**0.05**	**-1.3538**	**0.1815**	**-2.6644**	**1.4922**
13	**25**	**0.2002**	**0.3863**	**11**	**0.52**	**0.6146**	**1.0000**	**0.05**	**-0.6501**	**1.0504**	**-2.1019**	**2.5022**
18	**19**	**0.1461**	**0.2794**	**11**	**0.52**	**0.6115**	**1.0000**	**0.05**	**-0.4690**	**0.7611**	**-1.5191**	**1.8113**
18	**21**	**0.5015**	**0.3060**	**11**	**1.64**	**0.1295**	**1.0000**	**0.05**	**-0.1720**	**1.1749**	**-1.3219**	**2.3248**
18	**22**	**0.4582**	**0.3024**	**11**	**1.52**	**0.1579**	**1.0000**	**0.05**	**-0.2073**	**1.1237**	**-1.3436**	**2.2599**
18	**23**	**-0.3074**	**0.2547**	**11**	**-1.21**	**0.2528**	**1.0000**	**0.05**	**-0.8680**	**0.2532**	**-1.8251**	**1.2103**
18	**25**	**0.4789**	**0.3041**	**11**	**1.57**	**0.1436**	**1.0000**	**0.05**	**-0.1904**	**1.1482**	**-1.3331**	**2.2909**
19	**21**	**0.3554**	**0.3139**	**11**	**1.13**	**0.2817**	**1.0000**	**0.05**	**-0.3356**	**1.0464**	**-1.5154**	**2.2262**
19	**22**	**0.3121**	**0.3104**	**11**	**1.01**	**0.3363**	**1.0000**	**0.05**	**-0.3711**	**0.9953**	**-1.5377**	**2.1619**
19	**23**	**-0.4534**	**0.2642**	**11**	**-1.72**	**0.1141**	**1.0000**	**0.05**	**-1.0350**	**0.1281**	**-2.0279**	**1.1210**
19	**25**	**0.3328**	**0.3121**	**11**	**1.07**	**0.3091**	**1.0000**	**0.05**	**-0.3541**	**1.0198**	**-1.5269**	**2.1926**
21	**22**	**-0.04330**	**0.3345**	**11**	**-0.13**	**0.8993**	**1.0000**	**0.05**	**-0.7796**	**0.6929**	**-2.0366**	**1.9500**
21	**23**	**-0.8088**	**0.2921**	**11**	**-2.77**	**0.0183**	**1.0000**	**0.05**	**-1.4518**	**-0.1659**	**-2.5497**	**0.9320**
21	**25**	**-0.02257**	**0.3361**	**11**	**-0.07**	**0.9477**	**1.0000**	**0.05**	**-0.7622**	**0.7171**	**-2.0251**	**1.9800**
22	**23**	**-0.7655**	**0.2883**	**11**	**-2.66**	**0.0224**	**1.0000**	**0.05**	**-1.4002**	**-0.1309**	**-2.4837**	**0.9527**
22	**25**	**0.02073**	**0.3328**	**11**	**0.06**	**0.9514**	**1.0000**	**0.05**	**-0.7117**	**0.7532**	**-1.9622**	**2.0037**
23	**25**	**0.7863**	**0.2901**	**11**	**2.71**	**0.0203**	**1.0000**	**0.05**	**0.1477**	**1.4249**	**-0.9427**	**2.5152**

Mixed run for Question 2
%of Moving Time Spent off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctMovOff
Response Distribution	Beta
Link Function	Logit

Model Information

Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**8**	66.208084517	0.32842052	0.000011
1	**0**	**5**	68.868503978	0.02237429	0.001261
2	**0**	**3**	68.903908489	0.00080354	1.663E-6
3	**0**	**1**	68.903715747	0.00001781	5.954E-7
4	**0**	**0**	68.903712171	0.00000000	9.85E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	68.90
Generalized Chi-Square	80.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.05202	0.06066
Scale	90.2115	16.0884

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	3.35	0.0186

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	-1.6292	0.1170	11	-13.92	<.0001
ave(18,19,21,22,23,25)	-1.4204	0.1087	11	-13.07	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	2.74	0.0544
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	1.71	0.2177

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
8	**-0.9226**	**0.2645**	**11**	**-3.49**	**0.0051**	**0.05**	**-1.5048**	**-0.3404**	**0.2844**	**0.05384**	**0.1817**	**0.4157**
9	**-1.7891**	**0.2727**	**11**	**-6.56**	**<.0001**	**0.05**	**-2.3893**	**-1.1889**	**0.1432**	**0.03345**	**0.08399**	**0.2335**
10	**-1.9227**	**0.3182**	**11**	**-6.04**	**<.0001**	**0.05**	**-2.6231**	**-1.2222**	**0.1276**	**0.03542**	**0.06767**	**0.2275**
11	**-1.6210**	**0.2681**	**11**	**-6.04**	**<.0001**	**0.05**	**-2.2111**	**-1.0308**	**0.1651**	**0.03696**	**0.09875**	**0.2629**
12	**-1.4977**	**0.2653**	**11**	**-5.65**	**0.0001**	**0.05**	**-2.0816**	**-0.9139**	**0.1828**	**0.03962**	**0.1109**	**0.2862**
13	**-2.0221**	**0.3242**	**11**	**-6.24**	**<.0001**	**0.05**	**-2.7357**	**-1.3085**	**0.1169**	**0.03347**	**0.06090**	**0.2127**
18	**-1.5048**	**0.2654**	**11**	**-5.67**	**0.0001**	**0.05**	**-2.0890**	**-0.9206**	**0.1817**	**0.03947**	**0.1102**	**0.2848**
19	**-0.5805**	**0.2528**	**11**	**-2.30**	**0.0423**	**0.05**	**-1.1370**	**-0.02398**	**0.3588**	**0.05817**	**0.2429**	**0.4940**

21	-1.3371	0.2620	11	-5.10	0.0003	0.05	-1.9138	-0.7604	0.2080	0.04316	0.1286	0.3186
22	-1.3100	0.2615	11	-5.01	0.0004	0.05	-1.8856	-0.7344	0.2125	0.04376	0.1317	0.3242
23	-2.1670	0.2859	11	-7.58	<.0001	0.05	-2.7963	-1.5377	0.1028	0.02636	0.05753	0.1769
25	-1.6229	0.2682	11	-6.05	<.0001	0.05	-2.2132	-1.0326	0.1648	0.03692	0.09857	0.2626

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
8	9	0.8665	0.3799	11	2.28	0.0435	1.0000	0.05	0.03033	1.7027	-1.3973	3.1304
8	10	1.0001	0.4138	11	2.42	0.0342	1.0000	0.05	0.08927	1.9109	-1.4658	3.4660
8	11	0.6984	0.3767	11	1.85	0.0907	1.0000	0.05	-0.1307	1.5274	-1.5462	2.9429
8	12	0.5751	0.3746	11	1.54	0.1530	1.0000	0.05	-0.2494	1.3997	-1.6572	2.8075
8	13	1.0995	0.4184	11	2.63	0.0235	1.0000	0.05	0.1785	2.0204	-1.3940	3.5929
8	18	0.5822	0.3747	11	1.55	0.1485	1.0000	0.05	-0.2426	1.4070	-1.6508	2.8152
8	19	-0.3421	0.3659	11	-0.93	0.3699	1.0000	0.05	-1.1475	0.4633	-2.5226	1.8384
8	21	0.4145	0.3723	11	1.11	0.2893	1.0000	0.05	-0.4050	1.2340	-1.8042	2.6332
8	22	0.3874	0.3720	11	1.04	0.3200	1.0000	0.05	-0.4313	1.2062	-1.8292	2.6040
8	23	1.2444	0.3895	11	3.19	0.0085	1.0000	0.05	0.3871	2.1017	-1.0767	3.5654
8	25	0.7003	0.3767	11	1.86	0.0900	1.0000	0.05	-0.1288	1.5294	-1.5444	2.9450
9	10	0.1336	0.4191	11	0.32	0.7559	1.0000	0.05	-0.7888	1.0560	-2.3637	2.6309
9	11	-0.1681	0.3824	11	-0.44	0.6687	1.0000	0.05	-1.0099	0.6736	-2.4471	2.1108
9	12	-0.2914	0.3804	11	-0.77	0.4599	1.0000	0.05	-1.1287	0.5460	-2.5583	1.9756
9	13	0.2330	0.4236	11	0.55	0.5934	1.0000	0.05	-0.6995	1.1654	-2.2915	2.7574
9	18	-0.2843	0.3805	11	-0.75	0.4707	1.0000	0.05	-1.1219	0.5533	-2.5519	1.9833
9	19	-1.2086	0.3719	11	-3.25	0.0077	1.0000	0.05	-2.0271	-0.3901	-3.4246	1.0073
9	21	-0.4520	0.3782	11	-1.20	0.2571	1.0000	0.05	-1.2843	0.3804	-2.7055	1.8015
9	22	-0.4791	0.3778	11	-1.27	0.2310	1.0000	0.05	-1.3107	0.3525	-2.7305	1.7724
9	23	0.3779	0.3951	11	0.96	0.3594	1.0000	0.05	-0.4917	1.2475	-1.9765	2.7322
9	25	-0.1662	0.3825	11	-0.43	0.6723	1.0000	0.05	-1.0080	0.6756	-2.4453	2.1130
10	11	-0.3017	0.4161	11	-0.73	0.4836	1.0000	0.05	-1.2176	0.6142	-2.7815	2.1781
10	12	-0.4249	0.4143	11	-1.03	0.3271	1.0000	0.05	-1.3368	0.4869	-2.8937	2.0438
10	13	0.09939	0.4543	11	0.22	0.8308	1.0000	0.05	-0.9005	1.0993	-2.6077	2.8065
10	18	-0.4179	0.4144	11	-1.01	0.3349	1.0000	0.05	-1.3299	0.4942	-2.8872	2.0515
10	19	-1.3422	0.4065	11	-3.30	0.0071	1.0000	0.05	-2.2368	-0.4476	-3.7642	1.0798
10	21	-0.5856	0.4122	11	-1.42	0.1832	1.0000	0.05	-1.4929	0.3217	-3.0420	1.8709
10	22	-0.6127	0.4119	11	-1.49	0.1650	1.0000	0.05	-1.5193	0.2940	-3.0672	1.8419

10	23	0.2443	0.4278	11	0.57	0.5795	1.0000	0.05	-0.6973	1.1859	-2.3050	2.7936
10	25	-0.2998	0.4162	11	-0.72	0.4864	1.0000	0.05	-1.2158	0.6162	-2.7797	2.1802
11	12	-0.1232	0.3772	11	-0.33	0.7501	1.0000	0.05	-0.9534	0.7070	-2.3709	2.1244
11	13	0.4011	0.4207	11	0.95	0.3609	1.0000	0.05	-0.5249	1.3271	-2.1060	2.9082
11	18	-0.1162	0.3773	11	-0.31	0.7639	1.0000	0.05	-0.9466	0.7143	-2.3644	2.1321
11	19	-1.0405	0.3686	11	-2.82	0.0166	1.0000	0.05	-1.8517	-0.2293	-3.2367	1.1557
11	21	-0.2838	0.3749	11	-0.76	0.4649	1.0000	0.05	-1.1090	0.5413	-2.5179	1.9502
11	22	-0.3109	0.3746	11	-0.83	0.4241	1.0000	0.05	-1.1354	0.5135	-2.5430	1.9211
11	23	0.5460	0.3920	11	1.39	0.1911	1.0000	0.05	-0.3167	1.4088	-1.7898	2.8818
11	25	0.001956	0.3793	11	0.01	0.9960	1.0000	0.05	-0.8328	0.8367	-2.2580	2.2619
12	13	0.5243	0.4189	11	1.25	0.2367	1.0000	0.05	-0.3977	1.4463	-1.9719	3.0206
12	18	0.007059	0.3753	11	0.02	0.9853	1.0000	0.05	-0.8189	0.8330	-2.2291	2.2432
12	19	-0.9173	0.3665	11	-2.50	0.0294	1.0000	0.05	-1.7238	-0.1107	-3.1010	1.2665
12	21	-0.1606	0.3729	11	-0.43	0.6749	1.0000	0.05	-0.9813	0.6600	-2.3825	2.0612
12	22	-0.1877	0.3725	11	-0.50	0.6242	1.0000	0.05	-1.0076	0.6322	-2.4075	2.0320
12	23	0.6692	0.3900	11	1.72	0.1142	1.0000	0.05	-0.1892	1.5276	-1.6549	2.9933
12	25	0.1252	0.3772	11	0.33	0.7463	1.0000	0.05	-0.7051	0.9554	-2.1227	2.3730
13	18	-0.5173	0.4190	11	-1.23	0.2427	1.0000	0.05	-1.4395	0.4050	-3.0141	1.9796
13	19	-1.4416	0.4112	11	-3.51	0.0049	1.0000	0.05	-2.3465	-0.5366	-3.8916	1.0084
13	21	-0.6850	0.4169	11	-1.64	0.1286	1.0000	0.05	-1.6025	0.2325	-3.1690	1.7991
13	22	-0.7120	0.4165	11	-1.71	0.1154	1.0000	0.05	-1.6289	0.2048	-3.1942	1.7701
13	23	0.1449	0.4323	11	0.34	0.7438	1.0000	0.05	-0.8065	1.0963	-2.4310	2.7208
13	25	-0.3992	0.4208	11	-0.95	0.3632	1.0000	0.05	-1.3253	0.5269	-2.9065	2.1082
18	19	-0.9243	0.3666	11	-2.52	0.0284	1.0000	0.05	-1.7311	-0.1175	-3.1087	1.2601
18	21	-0.1677	0.3730	11	-0.45	0.6617	1.0000	0.05	-0.9886	0.6532	-2.3902	2.0548
18	22	-0.1948	0.3726	11	-0.52	0.6115	1.0000	0.05	-1.0149	0.6254	-2.4152	2.0256
18	23	0.6622	0.3901	11	1.70	0.1177	1.0000	0.05	-0.1965	1.5208	-1.6625	2.9869
18	25	0.1181	0.3773	11	0.31	0.7601	1.0000	0.05	-0.7124	0.9486	-2.1304	2.3666
19	21	0.7566	0.3641	11	2.08	0.0619	1.0000	0.05	-0.04481	1.5581	-1.4132	2.9264
19	22	0.7295	0.3638	11	2.01	0.0701	1.0000	0.05	-0.07112	1.5302	-1.4381	2.8972
19	23	1.5865	0.3817	11	4.16	0.0016	0.8440	0.05	0.7464	2.4265	-0.6879	3.8608
19	25	1.0424	0.3686	11	2.83	0.0164	1.0000	0.05	0.2312	1.8537	-1.1540	3.2388
21	22	-0.02709	0.3702	11	-0.07	0.9430	1.0000	0.05	-0.8419	0.7877	-2.2331	2.1789
21	23	0.8299	0.3878	11	2.14	0.0556	1.0000	0.05	-0.02372	1.6834	-1.4811	3.1408
21	25	0.2858	0.3749	11	0.76	0.4620	1.0000	0.05	-0.5395	1.1111	-1.9485	2.5201
22	23	0.8569	0.3875	11	2.21	0.0491	1.0000	0.05	0.004102	1.7098	-1.4520	3.1659
22	25	0.3129	0.3746	11	0.84	0.4213	1.0000	0.05	-0.5116	1.1374	-1.9193	2.5451
23	25	-0.5441	0.3920	11	-1.39	0.1927	1.0000	0.05	-1.4069	0.3188	-2.8800	1.7919

Mixed run for Question 2
Total Distance Travled

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	TDTlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-26.30013391	
1	2	-32.50892609	0.00000034
2	1	-32.50895681	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.02451	0.01772	1.38	0.0833	0.05	0.008650	0.2174
Residual	0.02133	0.003630	5.88	<.0001	0.05	0.01569	0.03071

Fit Statistics

-2 Res Log Likelihood	-32.5
AIC (smaller is better)	-28.5
AICC (smaller is better)	-28.4
BIC (smaller is better)	-24.9

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.51	0.2390

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	5.1331	0.07294	11	70.38	<.0001
ave(18,19,21,22,23,25)	4.9418	0.07053	11	70.07	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	0.78	0.6557
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	3.55	0.0861

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**8**	**5.0204**	**0.1778**	**11**	**28.23**	**<.0001**	**0.05**	**4.6290**	**5.4117**
PLTNo	**9**	**5.2529**	**0.1728**	**11**	**30.41**	**<.0001**	**0.05**	**4.8727**	**5.6331**
PLTNo	**10**	**5.0883**	**0.1876**	**11**	**27.13**	**<.0001**	**0.05**	**4.6755**	**5.5011**
PLTNo	**11**	**5.1960**	**0.1728**	**11**	**30.08**	**<.0001**	**0.05**	**4.8158**	**5.5763**
PLTNo	**12**	**5.2804**	**0.1728**	**11**	**30.57**	**<.0001**	**0.05**	**4.9002**	**5.6606**
PLTNo	**13**	**4.9604**	**0.1876**	**11**	**26.45**	**<.0001**	**0.05**	**4.5476**	**5.3732**

PLTNo	18	5.0555	0.1728	11	29.26	<.0001	0.05	4.6753	5.4357
PLTNo	19	5.0341	0.1728	11	29.14	<.0001	0.05	4.6539	5.4143
PLTNo	21	4.9200	0.1728	11	28.48	<.0001	0.05	4.5398	5.3002
PLTNo	22	4.7411	0.1728	11	27.44	<.0001	0.05	4.3609	5.1214
PLTNo	23	4.9724	0.1728	11	28.78	<.0001	0.05	4.5922	5.3526
PLTNo	25	4.9278	0.1728	11	28.53	<.0001	0.05	4.5476	5.3080

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	8	9	-0.2326	0.2479	11	-0.94	0.3684	Bonferroni	1.0000	0.05	-0.7782	0.3131	-1.7099	1.2448
PLTNo	8	10	-0.06794	0.2585	11	-0.26	0.7975	Bonferroni	1.0000	0.05	-0.6368	0.5009	-1.6080	1.4722
PLTNo	8	11	-0.1757	0.2479	11	-0.71	0.4933	Bonferroni	1.0000	0.05	-0.7213	0.3700	-1.6530	1.3017
PLTNo	8	12	-0.2600	0.2479	11	-1.05	0.3168	Bonferroni	1.0000	0.05	-0.8057	0.2856	-1.7374	1.2173
PLTNo	8	13	0.05998	0.2585	11	0.23	0.8207	Bonferroni	1.0000	0.05	-0.5089	0.6288	-1.4801	1.6001
PLTNo	8	18	-0.03515	0.2479	11	-0.14	0.8898	Bonferroni	1.0000	0.05	-0.5808	0.5105	-1.5125	1.4422
PLTNo	8	19	-0.01373	0.2479	11	-0.06	0.9568	Bonferroni	1.0000	0.05	-0.5594	0.5319	-1.4911	1.4636
PLTNo	8	21	0.1004	0.2479	11	0.40	0.6933	Bonferroni	1.0000	0.05	-0.4453	0.6460	-1.3770	1.5777
PLTNo	8	22	0.2792	0.2479	11	1.13	0.2840	Bonferroni	1.0000	0.05	-0.2665	0.8249	-1.1981	1.7566
PLTNo	8	23	0.04797	0.2479	11	0.19	0.8501	Bonferroni	1.0000	0.05	-0.4977	0.5936	-1.4294	1.5253
PLTNo	8	25	0.09257	0.2479	11	0.37	0.7159	Bonferroni	1.0000	0.05	-0.4531	0.6382	-1.3848	1.5699
PLTNo	9	10	0.1646	0.2550	11	0.65	0.5318	Bonferroni	1.0000	0.05	-0.3966	0.7258	-1.3549	1.6841
PLTNo	9	11	0.05688	0.2443	11	0.23	0.8202	Bonferroni	1.0000	0.05	-0.4808	0.5946	-1.3989	1.5127

PLTNo	9	12	-0.02747	0.2443	11	-0.11	0.9125	Bonferroni	1.0000	0.05	-0.5652	0.5102	-1.4833	1.4283
PLTNo	9	13	0.2925	0.2550	11	1.15	0.2756	Bonferroni	1.0000	0.05	-0.2687	0.8538	-1.2269	1.8120
PLTNo	9	18	0.1974	0.2443	11	0.81	0.4362	Bonferroni	1.0000	0.05	-0.3403	0.7351	-1.2584	1.6532
PLTNo	9	19	0.2188	0.2443	11	0.90	0.3896	Bonferroni	1.0000	0.05	-0.3189	0.7565	-1.2370	1.6746
PLTNo	9	21	0.3329	0.2443	11	1.36	0.2002	Bonferroni	1.0000	0.05	-0.2048	0.8706	-1.1229	1.7887
PLTNo	9	22	0.5118	0.2443	11	2.09	0.0601	Bonferroni	1.0000	0.05	-0.02595	1.0495	-0.9440	1.9676
PLTNo	9	23	0.2805	0.2443	11	1.15	0.2752	Bonferroni	1.0000	0.05	-0.2572	0.8182	-1.1753	1.7363
PLTNo	9	25	0.3251	0.2443	11	1.33	0.2102	Bonferroni	1.0000	0.05	-0.2126	0.8629	-1.1307	1.7809
PLTNo	10	11	-0.1077	0.2550	11	-0.42	0.6808	Bonferroni	1.0000	0.05	-0.6690	0.4535	-1.6272	1.4117
PLTNo	10	12	-0.1921	0.2550	11	-0.75	0.4671	Bonferroni	1.0000	0.05	-0.7533	0.3691	-1.7116	1.3274
PLTNo	10	13	0.1279	0.2652	11	0.48	0.6390	Bonferroni	1.0000	0.05	-0.4559	0.7117	-1.4526	1.7085
PLTNo	10	18	0.03279	0.2550	11	0.13	0.9000	Bonferroni	1.0000	0.05	-0.5284	0.5940	-1.4867	1.5523
PLTNo	10	19	0.05421	0.2550	11	0.21	0.8355	Bonferroni	1.0000	0.05	-0.5070	0.6154	-1.4653	1.5737
PLTNo	10	21	0.1683	0.2550	11	0.66	0.5228	Bonferroni	1.0000	0.05	-0.3929	0.7295	-1.3512	1.6878
PLTNo	10	22	0.3472	0.2550	11	1.36	0.2006	Bonferroni	1.0000	0.05	-0.2141	0.9084	-1.1723	1.8666
PLTNo	10	23	0.1159	0.2550	11	0.45	0.6583	Bonferroni	1.0000	0.05	-0.4453	0.6771	-1.4036	1.6354
PLTNo	10	25	0.1605	0.2550	11	0.63	0.5419	Bonferroni	1.0000	0.05	-0.4007	0.7217	-1.3590	1.6800
PLTNo	11	12	-0.08435	0.2443	11	-0.35	0.7364	Bonferroni	1.0000	0.05	-0.6221	0.4534	-1.5402	1.3715

PLTNo	11	13	0.2357	0.2550	11	0.92	0.3752	Bonferroni	1.0000	0.05	-0.3256	0.7969	-1.2838	1.7551
PLTNo	11	18	0.1405	0.2443	11	0.58	0.5767	Bonferroni	1.0000	0.05	-0.3972	0.6782	-1.3153	1.5963
PLTNo	11	19	0.1619	0.2443	11	0.66	0.5211	Bonferroni	1.0000	0.05	-0.3758	0.6997	-1.2939	1.6178
PLTNo	11	21	0.2760	0.2443	11	1.13	0.2825	Bonferroni	1.0000	0.05	-0.2617	0.8138	-1.1798	1.7319
PLTNo	11	22	0.4549	0.2443	11	1.86	0.0895	Bonferroni	1.0000	0.05	-0.08283	0.9926	-1.0009	1.9107
PLTNo	11	23	0.2236	0.2443	11	0.92	0.3796	Bonferroni	1.0000	0.05	-0.3141	0.7614	-1.2322	1.6795
PLTNo	11	25	0.2682	0.2443	11	1.10	0.2957	Bonferroni	1.0000	0.05	-0.2695	0.8060	-1.1876	1.7241
PLTNo	12	13	0.3200	0.2550	11	1.25	0.2355	Bonferroni	1.0000	0.05	-0.2412	0.8812	-1.1995	1.8395
PLTNo	12	18	0.2249	0.2443	11	0.92	0.3771	Bonferroni	1.0000	0.05	-0.3128	0.7626	-1.2309	1.6807
PLTNo	12	19	0.2463	0.2443	11	1.01	0.3350	Bonferroni	1.0000	0.05	-0.2914	0.7840	-1.2095	1.7021
PLTNo	12	21	0.3604	0.2443	11	1.48	0.1682	Bonferroni	1.0000	0.05	-0.1773	0.8981	-1.0954	1.8162
PLTNo	12	22	0.5392	0.2443	11	2.21	0.0495	Bonferroni	1.0000	0.05	0.001521	1.0770	-0.9166	1.9951
PLTNo	12	23	0.3080	0.2443	11	1.26	0.2335	Bonferroni	1.0000	0.05	-0.2297	0.8457	-1.1478	1.7638
PLTNo	12	25	0.3526	0.2443	11	1.44	0.1768	Bonferroni	1.0000	0.05	-0.1851	0.8903	-1.1032	1.8084
PLTNo	13	18	-0.09514	0.2550	11	-0.37	0.7162	Bonferroni	1.0000	0.05	-0.6564	0.4661	-1.6146	1.4243
PLTNo	13	19	-0.07371	0.2550	11	-0.29	0.7779	Bonferroni	1.0000	0.05	-0.6349	0.4875	-1.5932	1.4458
PLTNo	13	21	0.04039	0.2550	11	0.16	0.8770	Bonferroni	1.0000	0.05	-0.5208	0.6016	-1.4791	1.5599
PLTNo	13	22	0.2192	0.2550	11	0.86	0.4083	Bonferroni	1.0000	0.05	-0.3420	0.7805	-1.3002	1.7387

PLTNo	**13**	**23**	**-0.01202**	**0.2550**	**11**	**-0.05**	**0.9633**	**Bonferroni**	**1.0000**	**0.05**	**-0.5732**	**0.5492**	**-1.5315**	**1.5075**
PLTNo	**13**	**25**	**0.03259**	**0.2550**	**11**	**0.13**	**0.9006**	**Bonferroni**	**1.0000**	**0.05**	**-0.5286**	**0.5938**	**-1.4869**	**1.5521**
PLTNo	**18**	**19**	**0.02142**	**0.2443**	**11**	**0.09**	**0.9317**	**Bonferroni**	**1.0000**	**0.05**	**-0.5163**	**0.5591**	**-1.4344**	**1.4772**
PLTNo	**18**	**21**	**0.1355**	**0.2443**	**11**	**0.55**	**0.5902**	**Bonferroni**	**1.0000**	**0.05**	**-0.4022**	**0.6732**	**-1.3203**	**1.5913**
PLTNo	**18**	**22**	**0.3144**	**0.2443**	**11**	**1.29**	**0.2246**	**Bonferroni**	**1.0000**	**0.05**	**-0.2234**	**0.8521**	**-1.1414**	**1.7702**
PLTNo	**18**	**23**	**0.08312**	**0.2443**	**11**	**0.34**	**0.7401**	**Bonferroni**	**1.0000**	**0.05**	**-0.4546**	**0.6208**	**-1.3727**	**1.5389**
PLTNo	**18**	**25**	**0.1277**	**0.2443**	**11**	**0.52**	**0.6115**	**Bonferroni**	**1.0000**	**0.05**	**-0.4100**	**0.6654**	**-1.3281**	**1.5835**
PLTNo	**19**	**21**	**0.1141**	**0.2443**	**11**	**0.47**	**0.6496**	**Bonferroni**	**1.0000**	**0.05**	**-0.4236**	**0.6518**	**-1.3417**	**1.5699**
PLTNo	**19**	**22**	**0.2929**	**0.2443**	**11**	**1.20**	**0.2557**	**Bonferroni**	**1.0000**	**0.05**	**-0.2448**	**0.8307**	**-1.1629**	**1.7488**
PLTNo	**19**	**23**	**0.06170**	**0.2443**	**11**	**0.25**	**0.8053**	**Bonferroni**	**1.0000**	**0.05**	**-0.4760**	**0.5994**	**-1.3941**	**1.5175**
PLTNo	**19**	**25**	**0.1063**	**0.2443**	**11**	**0.44**	**0.6719**	**Bonferroni**	**1.0000**	**0.05**	**-0.4314**	**0.6440**	**-1.3495**	**1.5621**
PLTNo	**21**	**22**	**0.1788**	**0.2443**	**11**	**0.73**	**0.4795**	**Bonferroni**	**1.0000**	**0.05**	**-0.3589**	**0.7166**	**-1.2770**	**1.6347**
PLTNo	**21**	**23**	**-0.05241**	**0.2443**	**11**	**-0.21**	**0.8341**	**Bonferroni**	**1.0000**	**0.05**	**-0.5901**	**0.4853**	**-1.5082**	**1.4034**
PLTNo	**21**	**25**	**-0.00780**	**0.2443**	**11**	**-0.03**	**0.9751**	**Bonferroni**	**1.0000**	**0.05**	**-0.5455**	**0.5299**	**-1.4636**	**1.4480**
PLTNo	**22**	**23**	**-0.2312**	**0.2443**	**11**	**-0.95**	**0.3642**	**Bonferroni**	**1.0000**	**0.05**	**-0.7690**	**0.3065**	**-1.6871**	**1.2246**
PLTNo	**22**	**25**	**-0.1866**	**0.2443**	**11**	**-0.76**	**0.4610**	**Bonferroni**	**1.0000**	**0.05**	**-0.7244**	**0.3511**	**-1.6425**	**1.2692**
PLTNo	**23**	**25**	**0.04461**	**0.2443**	**11**	**0.18**	**0.8584**	**Bonferroni**	**1.0000**	**0.05**	**-0.4931**	**0.5823**	**-1.4112**	**1.5004**

Mixed run for Question 2

Total Distance Travled

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.11828594	**Variance**	0.01399156
Skewness	-0.1929877	**Kurtosis**	2.663393
Uncorrected SS	1.56705504	**Corrected SS**	1.56705504
Coeff Variation	.	**Std Error Mean**	0.0111274

Basic Statistical Measures

Location		**Variability**	
Mean	0.000000	**Std Deviation**	0.11829
Median	0.002427	**Variance**	0.01399
Mode	0.000000	**Range**	0.81924
		Interquartile Range	0.10309

Tests for Location: Mu0=0

Test		**Statistic**	**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	2.5	**Pr >= |M|**	0.7044
Signed Rank	**S**	136.5	**Pr >= |S|**	0.6899

Tests for Normality

Test		**Statistic**		**p Value**
Shapiro-Wilk	**W**	0.946038	**Pr < W**	0.0002
Kolmogorov-Smirnov	**D**	0.128083	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.349218	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	1.967801	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

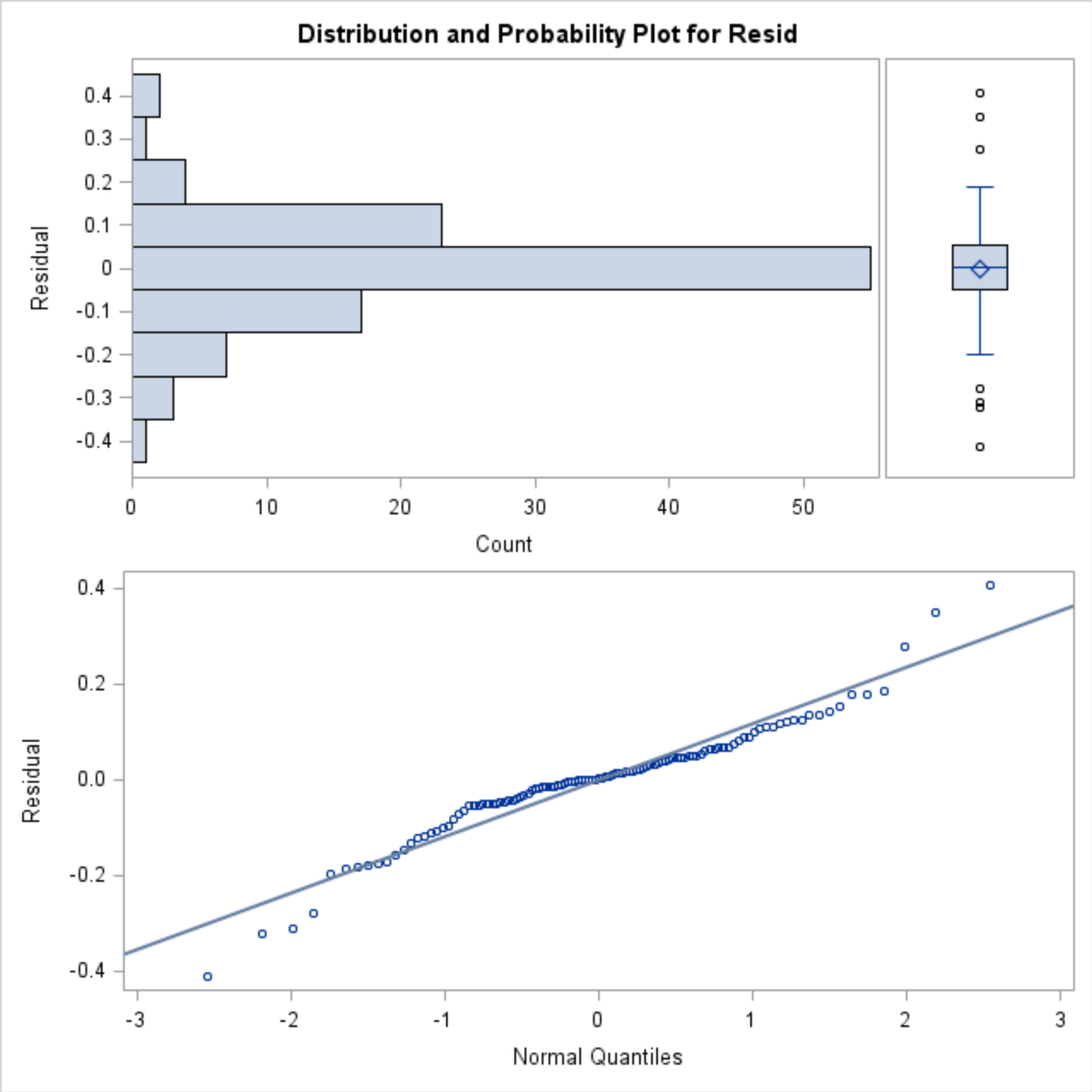
Quantile	**Estimate**
100% Max	0.40680059
99%	0.35063308
95%	0.17693938
90%	0.12359961
75% Q3	0.05336120
50% Median	0.00242699
25% Q1	-0.04973365
10%	-0.14552316

Quantiles (Definition 5)

Quantile	Estimate
5%	-0.18676272
1%	-0.32270884
0% Min	-0.41244175

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.412442	78	0.177436	47
-0.322709	72	0.186763	99
-0.312070	98	0.276720	73
-0.278232	39	0.350633	49
-0.198794	50	0.406801	52



Mixed run for Question 2

Distance Travled off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	DTORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	23.54842795	
1	3	23.21811538	0.00009073
2	1	23.21224071	0.00000048
3	1	23.21221076	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.006593	0.01344	0.49	0.3118	0.05	0.000945	10709
Residual	0.04752	0.007834	6.07	<.0001	0.05	0.03526	0.06757

Fit Statistics

-2 Res Log Likelihood	23.2
AIC (smaller is better)	27.2
AICC (smaller is better)	27.4
BIC (smaller is better)	30.8

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	4.93	0.0038

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	4.0257	0.06204	11	64.89	<.0001
ave(18,19,21,22,23,25)	3.9526	0.05549	11	71.23	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	2.52	0.0707
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	0.77	0.3989

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**8**	**4.2315**	**0.1498**	**11**	**28.25**	**<.0001**	**0.05**	**3.9019**	**4.5612**
PLTNo	**9**	**4.1043**	**0.1359**	**11**	**30.20**	**<.0001**	**0.05**	**3.8052**	**4.4035**
PLTNo	**10**	**3.9507**	**0.1742**	**11**	**22.68**	**<.0001**	**0.05**	**3.5672**	**4.3342**
PLTNo	**11**	**4.0640**	**0.1359**	**11**	**29.90**	**<.0001**	**0.05**	**3.7648**	**4.3632**
PLTNo	**12**	**4.2237**	**0.1359**	**11**	**31.07**	**<.0001**	**0.05**	**3.9245**	**4.5229**
PLTNo	**13**	**3.5798**	**0.1742**	**11**	**20.55**	**<.0001**	**0.05**	**3.1964**	**3.9633**
PLTNo	**18**	**4.0851**	**0.1359**	**11**	**30.06**	**<.0001**	**0.05**	**3.7860**	**4.3843**
PLTNo	**19**	**4.3441**	**0.1359**	**11**	**31.96**	**<.0001**	**0.05**	**4.0449**	**4.6433**
PLTNo	**21**	**3.9889**	**0.1359**	**11**	**29.35**	**<.0001**	**0.05**	**3.6897**	**4.2881**
PLTNo	**22**	**3.7259**	**0.1359**	**11**	**27.41**	**<.0001**	**0.05**	**3.4268**	**4.0251**
PLTNo	**23**	**3.7700**	**0.1359**	**11**	**27.74**	**<.0001**	**0.05**	**3.4708**	**4.0692**
PLTNo	**25**	**3.8018**	**0.1359**	**11**	**27.97**	**<.0001**	**0.05**	**3.5026**	**4.1009**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper

PLTNo	8	9	0.1272	0.2023	11	0.63	0.5423	Bonferroni	1.0000	0.05	-0.3180	0.5724	-1.0781	1.3325
PLTNo	8	10	0.2808	0.2298	11	1.22	0.2472	Bonferroni	1.0000	0.05	-0.2249	0.7865	-1.0883	1.6500
PLTNo	8	11	0.1675	0.2023	11	0.83	0.4251	Bonferroni	1.0000	0.05	-0.2776	0.6127	-1.0377	1.3728
PLTNo	8	12	0.007837	0.2023	11	0.04	0.9698	Bonferroni	1.0000	0.05	-0.4373	0.4530	-1.1974	1.2131
PLTNo	8	13	0.6517	0.2298	11	2.84	0.0162	Bonferroni	1.0000	0.05	0.1460	1.1574	-0.7174	2.0208
PLTNo	8	18	0.1464	0.2023	11	0.72	0.4843	Bonferroni	1.0000	0.05	-0.2988	0.5916	-1.0589	1.3517
PLTNo	8	19	-0.1126	0.2023	11	-0.56	0.5890	Bonferroni	1.0000	0.05	-0.5577	0.3326	-1.3178	1.0927
PLTNo	8	21	0.2426	0.2023	11	1.20	0.2555	Bonferroni	1.0000	0.05	-0.2025	0.6878	-0.9626	1.4479
PLTNo	8	22	0.5056	0.2023	11	2.50	0.0295	Bonferroni	1.0000	0.05	0.06042	0.9508	-0.6997	1.7109
PLTNo	8	23	0.4615	0.2023	11	2.28	0.0434	Bonferroni	1.0000	0.05	0.01637	0.9067	-0.7437	1.6668
PLTNo	8	25	0.4298	0.2023	11	2.12	0.0571	Bonferroni	1.0000	0.05	-0.01541	0.8749	-0.7755	1.6350
PLTNo	9	10	0.1536	0.2210	11	0.70	0.5013	Bonferroni	1.0000	0.05	-0.3327	0.6400	-1.1631	1.4704
PLTNo	9	11	0.04034	0.1922	11	0.21	0.8376	Bonferroni	1.0000	0.05	-0.3827	0.4634	-1.1051	1.1858
PLTNo	9	12	-0.1194	0.1922	11	-0.62	0.5473	Bonferroni	1.0000	0.05	-0.5424	0.3037	-1.2648	1.0261
PLTNo	9	13	0.5245	0.2210	11	2.37	0.0369	Bonferroni	1.0000	0.05	0.03815	1.0109	-0.7923	1.8413
PLTNo	9	18	0.01920	0.1922	11	0.10	0.9222	Bonferroni	1.0000	0.05	-0.4039	0.4423	-1.1262	1.1646
PLTNo	9	19	-0.2398	0.1922	11	-1.25	0.2382	Bonferroni	1.0000	0.05	-0.6628	0.1833	-1.3852	0.9057
PLTNo	9	21	0.1154	0.1922	11	0.60	0.5603	Bonferroni	1.0000	0.05	-0.3076	0.5385	-1.0300	1.2609

PLTNo	9	22	0.3784	0.1922	11	1.97	0.0747	Bonferroni	1.0000	0.05	-0.04468	0.8015	-0.7670	1.5238
PLTNo	9	23	0.3343	0.1922	11	1.74	0.1098	Bonferroni	1.0000	0.05	-0.08873	0.7574	-0.8111	1.4798
PLTNo	9	25	0.3026	0.1922	11	1.57	0.1438	Bonferroni	1.0000	0.05	-0.1205	0.7256	-0.8429	1.4480
PLTNo	10	11	-0.1133	0.2210	11	-0.51	0.6183	Bonferroni	1.0000	0.05	-0.5997	0.3731	-1.4301	1.2035
PLTNo	10	12	-0.2730	0.2210	11	-1.24	0.2424	Bonferroni	1.0000	0.05	-0.7594	0.2134	-1.5898	1.0438
PLTNo	10	13	0.3709	0.2464	11	1.51	0.1604	Bonferroni	1.0000	0.05	-0.1714	0.9132	-1.0974	1.8391
PLTNo	10	18	-0.1344	0.2210	11	-0.61	0.5553	Bonferroni	1.0000	0.05	-0.6208	0.3519	-1.4512	1.1823
PLTNo	10	19	-0.3934	0.2210	11	-1.78	0.1026	Bonferroni	1.0000	0.05	-0.8798	0.09297	-1.7102	0.9234
PLTNo	10	21	-0.03819	0.2210	11	-0.17	0.8659	Bonferroni	1.0000	0.05	-0.5246	0.4482	-1.3550	1.2786
PLTNo	10	22	0.2248	0.2210	11	1.02	0.3309	Bonferroni	1.0000	0.05	-0.2616	0.7111	-1.0920	1.5415
PLTNo	10	23	0.1807	0.2210	11	0.82	0.4308	Bonferroni	1.0000	0.05	-0.3057	0.6671	-1.1361	1.4975
PLTNo	10	25	0.1489	0.2210	11	0.67	0.5142	Bonferroni	1.0000	0.05	-0.3374	0.6353	-1.1678	1.4657
PLTNo	11	12	-0.1597	0.1922	11	-0.83	0.4237	Bonferroni	1.0000	0.05	-0.5828	0.2634	-1.3051	0.9857
PLTNo	11	13	0.4842	0.2210	11	2.19	0.0509	Bonferroni	1.0000	0.05	-0.00219	0.9705	-0.8326	1.8009
PLTNo	11	18	-0.02114	0.1922	11	-0.11	0.9144	Bonferroni	1.0000	0.05	-0.4442	0.4019	-1.1666	1.1243
PLTNo	11	19	-0.2801	0.1922	11	-1.46	0.1730	Bonferroni	1.0000	0.05	-0.7032	0.1430	-1.4255	0.8653
PLTNo	11	21	0.07511	0.1922	11	0.39	0.7035	Bonferroni	1.0000	0.05	-0.3480	0.4982	-1.0703	1.2205
PLTNo	11	22	0.3381	0.1922	11	1.76	0.1064	Bonferroni	1.0000	0.05	-0.08502	0.7611	-0.8074	1.4835

PLTNo	11	23	0.2940	0.1922	11	1.53	0.1544	Bonferroni	1.0000	0.05	-0.1291	0.7171	-0.8514	1.4394
PLTNo	11	25	0.2622	0.1922	11	1.36	0.1998	Bonferroni	1.0000	0.05	-0.1608	0.6853	-0.8832	1.4077
PLTNo	12	13	0.6439	0.2210	11	2.91	0.0141	Bonferroni	1.0000	0.05	0.1575	1.1302	-0.6729	1.9606
PLTNo	12	18	0.1386	0.1922	11	0.72	0.4861	Bonferroni	1.0000	0.05	-0.2845	0.5616	-1.0069	1.2840
PLTNo	12	19	-0.1204	0.1922	11	-0.63	0.5439	Bonferroni	1.0000	0.05	-0.5435	0.3027	-1.2658	1.0250
PLTNo	12	21	0.2348	0.1922	11	1.22	0.2474	Bonferroni	1.0000	0.05	-0.1883	0.6579	-0.9106	1.3802
PLTNo	12	22	0.4978	0.1922	11	2.59	0.0252	Bonferroni	1.0000	0.05	0.0746 8	0.9208	-0.6477	1.6432
PLTNo	12	23	0.4537	0.1922	11	2.36	0.0378	Bonferroni	1.0000	0.05	0.0306 3	0.8768	-0.6917	1.5991
PLTNo	12	25	0.4219	0.1922	11	2.20	0.0505	Bonferroni	1.0000	0.05	-0.0011 5	0.8450	-0.7235	1.5674
PLTNo	13	18	-0.5053	0.2210	11	-2.29	0.0430	Bonferroni	1.0000	0.05	-0.9917	-0.0189 5	-1.8221	0.8115
PLTNo	13	19	-0.7643	0.2210	11	-3.46	0.0053	Bonferroni	1.0000	0.05	-1.2506	-0.2779	-2.0810	0.5525
PLTNo	13	21	-0.4091	0.2210	11	-1.85	0.0912	Bonferroni	1.0000	0.05	-0.8954	0.0773 0	-1.7258	0.9077
PLTNo	13	22	-0.1461	0.2210	11	-0.66	0.5221	Bonferroni	1.0000	0.05	-0.6325	0.3403	-1.4629	1.1707
PLTNo	13	23	-0.1902	0.2210	11	-0.86	0.4078	Bonferroni	1.0000	0.05	-0.6765	0.2962	-1.5069	1.1266
PLTNo	13	25	-0.2219	0.2210	11	-1.00	0.3368	Bonferroni	1.0000	0.05	-0.7083	0.2644	-1.5387	1.0948
PLTNo	18	19	-0.2590	0.1922	11	-1.35	0.2050	Bonferroni	1.0000	0.05	-0.6820	0.1641	-1.4044	0.8865
PLTNo	18	21	0.09625	0.1922	11	0.50	0.6264	Bonferroni	1.0000	0.05	-0.3268	0.5193	-1.0492	1.2417
PLTNo	18	22	0.3592	0.1922	11	1.87	0.0885	Bonferroni	1.0000	0.05	-0.0638 8	0.7823	-0.7862	1.5046

PLTNo	**18**	**23**	**0.3151**	**0.1922**	**11**	**1.64**	**0.1294**	**Bonferroni**	**1.0000**	**0.05**	**-0.1079**	**0.7382**	**-0.8303**	**1.4606**
PLTNo	**18**	**25**	**0.2834**	**0.1922**	**11**	**1.47**	**0.1685**	**Bonferroni**	**1.0000**	**0.05**	**-0.1397**	**0.7064**	**-0.8621**	**1.4288**
PLTNo	**19**	**21**	**0.3552**	**0.1922**	**11**	**1.85**	**0.0917**	**Bonferroni**	**1.0000**	**0.05**	**-0.06787**	**0.7783**	**-0.7902**	**1.5006**
PLTNo	**19**	**22**	**0.6182**	**0.1922**	**11**	**3.22**	**0.0082**	**Bonferroni**	**1.0000**	**0.05**	**0.1951**	**1.0412**	**-0.5273**	**1.7636**
PLTNo	**19**	**23**	**0.5741**	**0.1922**	**11**	**2.99**	**0.0124**	**Bonferroni**	**1.0000**	**0.05**	**0.1510**	**0.9972**	**-0.5713**	**1.7195**
PLTNo	**19**	**25**	**0.5423**	**0.1922**	**11**	**2.82**	**0.0166**	**Bonferroni**	**1.0000**	**0.05**	**0.1193**	**0.9654**	**-0.6031**	**1.6878**
PLTNo	**21**	**22**	**0.2630**	**0.1922**	**11**	**1.37**	**0.1986**	**Bonferroni**	**1.0000**	**0.05**	**-0.1601**	**0.6860**	**-0.8825**	**1.4084**
PLTNo	**21**	**23**	**0.2189**	**0.1922**	**11**	**1.14**	**0.2790**	**Bonferroni**	**1.0000**	**0.05**	**-0.2042**	**0.6420**	**-0.9265**	**1.3643**
PLTNo	**21**	**25**	**0.1871**	**0.1922**	**11**	**0.97**	**0.3512**	**Bonferroni**	**1.0000**	**0.05**	**-0.2360**	**0.6102**	**-0.9583**	**1.3326**
PLTNo	**22**	**23**	**-0.04405**	**0.1922**	**11**	**-0.23**	**0.8229**	**Bonferroni**	**1.0000**	**0.05**	**-0.4671**	**0.3790**	**-1.1895**	**1.1014**
PLTNo	**22**	**25**	**-0.07583**	**0.1922**	**11**	**-0.39**	**0.7008**	**Bonferroni**	**1.0000**	**0.05**	**-0.4989**	**0.3472**	**-1.2213**	**1.0696**
PLTNo	**23**	**25**	**-0.03178**	**0.1922**	**11**	**-0.17**	**0.8717**	**Bonferroni**	**1.0000**	**0.05**	**-0.4549**	**0.3913**	**-1.1772**	**1.1137**

Mixed run for Question 2
Distance Travled off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.18216742	**Variance**	0.03318497
Skewness	-0.8457152	**Kurtosis**	2.21132822
Uncorrected SS	3.71671643	**Corrected SS**	3.71671643
Coeff Variation	.	**Std Error Mean**	0.01713687

Basic Statistical Measures

Location		Variability	
Mean	0.000000	**Std Deviation**	0.18217
Median	0.004977	**Variance**	0.03318
Mode	.	**Range**	1.16338
		Interquartile Range	0.17446

Tests for Location: Mu0=0

Test		Statistic		p Value
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	6	**Pr >= |M|**	0.2986
Signed Rank	**S**	292.5	**Pr >= |S|**	0.3982

Tests for Normality

Test		Statistic		p Value
Shapiro-Wilk	**W**	0.944847	**Pr < W**	0.0002
Kolmogorov-Smirnov	**D**	0.119956	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.342186	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	1.985116	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

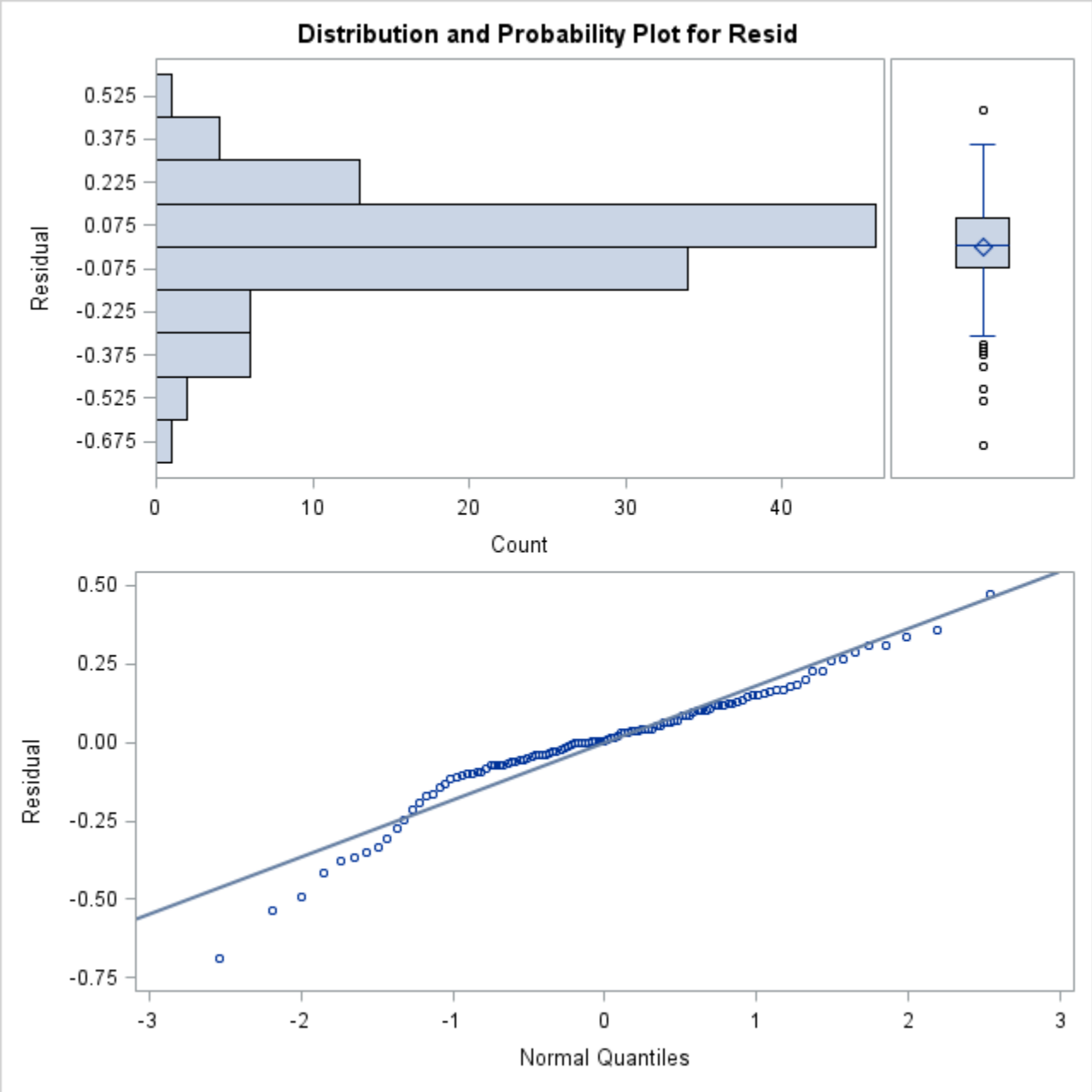
Quantile	Estimate
100% Max	0.47292006
99%	0.35917805
95%	0.28928936
90%	0.18133024
75% Q3	0.10371488
50% Median	0.00497671
25% Q1	-0.07074593
10%	-0.21203949
5%	-0.36482156
1%	-0.53731757
0% Min	-0.69046267

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.690463	98	0.306314	52
-0.537318	72	0.306794	9
-0.491707	39	0.337103	47

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.413902	10	0.359178	95
-0.375679	89	0.472920	73



Mixed run for Question 2
Average Total Speed

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	ATSlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-238.37547795	
1	2	-241.37924739	0.00085176
2	1	-241.57038852	0.00007076
3	1	-241.58494794	0.00000064
4	1	-241.58507343	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.001722	0.001397	1.23	0.1088	0.05	0.000556	0.02329
Residual	0.001569	0.000271	5.79	<.0001	0.05	0.001149	0.002272

Fit Statistics

-2 Res Log Likelihood	-241.6
AIC (smaller is better)	-237.6
AICC (smaller is better)	-237.4
BIC (smaller is better)	-234.0

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.76	0.1591

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	0.8245	0.01944	11	42.42	<.0001
ave(18,19,21,22,23,25)	0.7524	0.01877	11	40.08	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	1.47	0.2677
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	7.10	0.0220

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**8**	**0.7603**	**0.04738**	**11**	**16.05**	**<.0001**	**0.05**	**0.6560**	**0.8646**
PLTNo	**9**	**0.7971**	**0.04598**	**11**	**17.34**	**<.0001**	**0.05**	**0.6959**	**0.8983**
PLTNo	**10**	**0.8072**	**0.05007**	**11**	**16.12**	**<.0001**	**0.05**	**0.6970**	**0.9174**
PLTNo	**11**	**0.8426**	**0.04598**	**11**	**18.32**	**<.0001**	**0.05**	**0.7414**	**0.9438**
PLTNo	**12**	**0.8477**	**0.04598**	**11**	**18.43**	**<.0001**	**0.05**	**0.7465**	**0.9489**
PLTNo	**13**	**0.8919**	**0.05007**	**11**	**17.81**	**<.0001**	**0.05**	**0.7817**	**1.0021**
PLTNo	**18**	**0.6956**	**0.04598**	**11**	**15.13**	**<.0001**	**0.05**	**0.5944**	**0.7968**
PLTNo	**19**	**0.7484**	**0.04598**	**11**	**16.28**	**<.0001**	**0.05**	**0.6472**	**0.8496**
PLTNo	**21**	**0.7279**	**0.04598**	**11**	**15.83**	**<.0001**	**0.05**	**0.6267**	**0.8291**
PLTNo	**22**	**0.8020**	**0.04598**	**11**	**17.44**	**<.0001**	**0.05**	**0.7008**	**0.9032**
PLTNo	**23**	**0.7327**	**0.04598**	**11**	**15.94**	**<.0001**	**0.05**	**0.6315**	**0.8339**
PLTNo	**25**	**0.8081**	**0.04598**	**11**	**17.57**	**<.0001**	**0.05**	**0.7069**	**0.9093**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	8	9	-0.03686	0.06603	11	-0.56	0.5878	Bonferroni	1.0000	0.05	-0.1822	0.1085	-0.4303	0.3566
PLTNo	8	10	-0.04690	0.06893	11	-0.68	0.5104	Bonferroni	1.0000	0.05	-0.1986	0.1048	-0.4577	0.3639
PLTNo	8	11	-0.08234	0.06603	11	-1.25	0.2383	Bonferroni	1.0000	0.05	-0.2277	0.0629	-0.4758	0.3111
PLTNo	8	12	-0.08741	0.06603	11	-1.32	0.2124	Bonferroni	1.0000	0.05	-0.2327	0.0579	-0.4809	0.3060
PLTNo	8	13	-0.1317	0.06893	11	-1.91	0.0826	Bonferroni	1.0000	0.05	-0.2834	0.0200	-0.5424	0.2791
PLTNo	8	18	0.06467	0.06603	11	0.98	0.3484	Bonferroni	1.0000	0.05	-0.08066	0.2100	-0.3288	0.4581
PLTNo	8	19	0.01185	0.06603	11	0.18	0.8609	Bonferroni	1.0000	0.05	-0.1335	0.1572	-0.3816	0.4053
PLTNo	8	21	0.03240	0.06603	11	0.49	0.6333	Bonferroni	1.0000	0.05	-0.1129	0.1777	-0.3610	0.4258
PLTNo	8	22	-0.04170	0.06603	11	-0.63	0.5406	Bonferroni	1.0000	0.05	-0.1870	0.1036	-0.4351	0.3517
PLTNo	8	23	0.02752	0.06603	11	0.42	0.6848	Bonferroni	1.0000	0.05	-0.1178	0.1728	-0.3659	0.4210
PLTNo	8	25	-0.04782	0.06603	11	-0.72	0.4840	Bonferroni	1.0000	0.05	-0.1931	0.0975	-0.4413	0.3456
PLTNo	9	10	-0.01004	0.06798	11	-0.15	0.8853	Bonferroni	1.0000	0.05	-0.1597	0.1396	-0.4151	0.3950
PLTNo	9	11	-0.04548	0.06503	11	-0.70	0.4989	Bonferroni	1.0000	0.05	-0.1886	0.0976	-0.4330	0.3420
PLTNo	9	12	-0.05055	0.06503	11	-0.78	0.4533	Bonferroni	1.0000	0.05	-0.1937	0.0925	-0.4381	0.3369
PLTNo	9	13	-0.09480	0.06798	11	-1.39	0.1907	Bonferroni	1.0000	0.05	-0.2444	0.0548	-0.4999	0.3103
PLTNo	9	18	0.1015	0.06503	11	1.56	0.1468	Bonferroni	1.0000	0.05	-0.04160	0.2447	-0.2860	0.4890

PLTNo	9	19	0.04871	0.06503	11	0.75	0.4696	Bonferroni	1.0000	0.05	-0.09442	0.1918	-0.3388	0.4362
PLTNo	9	21	0.06926	0.06503	11	1.07	0.3097	Bonferroni	1.0000	0.05	-0.07387	0.2124	-0.3182	0.4568
PLTNo	9	22	-0.00484	0.06503	11	-0.07	0.9421	Bonferroni	1.0000	0.05	-0.1480	0.1383	-0.3923	0.3827
PLTNo	9	23	0.06438	0.06503	11	0.99	0.3434	Bonferroni	1.0000	0.05	-0.07874	0.2075	-0.3231	0.4519
PLTNo	9	25	-0.01096	0.06503	11	-0.17	0.8692	Bonferroni	1.0000	0.05	-0.1541	0.1322	-0.3985	0.3765
PLTNo	10	11	-0.03544	0.06798	11	-0.52	0.6125	Bonferroni	1.0000	0.05	-0.1851	0.1142	-0.4405	0.3696
PLTNo	10	12	-0.04052	0.06798	11	-0.60	0.5632	Bonferroni	1.0000	0.05	-0.1901	0.1091	-0.4456	0.3646
PLTNo	10	13	-0.08476	0.07080	11	-1.20	0.2564	Bonferroni	1.0000	0.05	-0.2406	0.07108	-0.5067	0.3372
PLTNo	10	18	0.1116	0.06798	11	1.64	0.1290	Bonferroni	1.0000	0.05	-0.03805	0.2612	-0.2935	0.5166
PLTNo	10	19	0.05875	0.06798	11	0.86	0.4059	Bonferroni	1.0000	0.05	-0.09087	0.2084	-0.3463	0.4638
PLTNo	10	21	0.07929	0.06798	11	1.17	0.2681	Bonferroni	1.0000	0.05	-0.07032	0.2289	-0.3258	0.4844
PLTNo	10	22	0.005202	0.06798	11	0.08	0.9404	Bonferroni	1.0000	0.05	-0.1444	0.1548	-0.3999	0.4103
PLTNo	10	23	0.07442	0.06798	11	1.09	0.2970	Bonferroni	1.0000	0.05	-0.07520	0.2240	-0.3307	0.4795
PLTNo	10	25	-0.00092	0.06798	11	-0.01	0.9894	Bonferroni	1.0000	0.05	-0.1505	0.1487	-0.4060	0.4042
PLTNo	11	12	-0.00508	0.06503	11	-0.08	0.9392	Bonferroni	1.0000	0.05	-0.1482	0.1381	-0.3926	0.3824
PLTNo	11	13	-0.04932	0.06798	11	-0.73	0.4833	Bonferroni	1.0000	0.05	-0.1989	0.1003	-0.4544	0.3558
PLTNo	11	18	0.1470	0.06503	11	2.26	0.0450	Bonferroni	1.0000	0.05	0.003876	0.2901	-0.2405	0.5345
PLTNo	11	19	0.09418	0.06503	11	1.45	0.1754	Bonferroni	1.0000	0.05	-0.04894	0.2373	-0.2933	0.4817

PLTNo	11	21	0.1147	0.06503	11	1.76	0.1054	Bonferroni	1.0000	0.05	-0.02839	0.2579	-0.2728	0.5022
PLTNo	11	22	0.04064	0.06503	11	0.62	0.5447	Bonferroni	1.0000	0.05	-0.1025	0.1838	-0.3469	0.4281
PLTNo	11	23	0.1099	0.06503	11	1.69	0.1193	Bonferroni	1.0000	0.05	-0.03327	0.2530	-0.2776	0.4974
PLTNo	11	25	0.03452	0.06503	11	0.53	0.6061	Bonferroni	1.0000	0.05	-0.1086	0.1776	-0.3530	0.4220
PLTNo	12	13	-0.04424	0.06798	11	-0.65	0.5285	Bonferroni	1.0000	0.05	-0.1939	0.1054	-0.4493	0.3608
PLTNo	12	18	0.1521	0.06503	11	2.34	0.0393	Bonferroni	1.0000	0.05	0.008952	0.2952	-0.2354	0.5396
PLTNo	12	19	0.09926	0.06503	11	1.53	0.1551	Bonferroni	1.0000	0.05	-0.04387	0.2424	-0.2882	0.4868
PLTNo	12	21	0.1198	0.06503	11	1.84	0.0925	Bonferroni	1.0000	0.05	-0.02332	0.2629	-0.2677	0.5073
PLTNo	12	22	0.04572	0.06503	11	0.70	0.4966	Bonferroni	1.0000	0.05	-0.09741	0.1888	-0.3418	0.4332
PLTNo	12	23	0.1149	0.06503	11	1.77	0.1048	Bonferroni	1.0000	0.05	-0.02819	0.2581	-0.2726	0.5024
PLTNo	12	25	0.03959	0.06503	11	0.61	0.5550	Bonferroni	1.0000	0.05	-0.1035	0.1827	-0.3479	0.4271
PLTNo	13	18	0.1963	0.06798	11	2.89	0.0148	Bonferroni	1.0000	0.05	0.04670	0.3459	-0.2088	0.6014
PLTNo	13	19	0.1435	0.06798	11	2.11	0.0585	Bonferroni	1.0000	0.05	-0.00611	0.2931	-0.2616	0.5486
PLTNo	13	21	0.1641	0.06798	11	2.41	0.0344	Bonferroni	1.0000	0.05	0.01443	0.3137	-0.2410	0.5691
PLTNo	13	22	0.08996	0.06798	11	1.32	0.2126	Bonferroni	1.0000	0.05	-0.05966	0.2396	-0.3151	0.4950
PLTNo	13	23	0.1592	0.06798	11	2.34	0.0391	Bonferroni	1.0000	0.05	0.009560	0.3088	-0.2459	0.5643
PLTNo	13	25	0.08384	0.06798	11	1.23	0.2432	Bonferroni	1.0000	0.05	-0.06578	0.2335	-0.3212	0.4889
PLTNo	18	19	-0.05282	0.06503	11	-0.81	0.4339	Bonferroni	1.0000	0.05	-0.1959	0.09031	-0.4403	0.3347

PLTNo	**18**	**21**	**-0.03227**	**0.06503**	**11**	**-0.50**	**0.6295**	**Bonferroni**	**1.0000**	**0.05**	**-0.1754**	**0.1109**	**-0.4198**	**0.3552**
PLTNo	**18**	**22**	**-0.1064**	**0.06503**	**11**	**-1.64**	**0.1302**	**Bonferroni**	**1.0000**	**0.05**	**-0.2495**	**0.03676**	**-0.4939**	**0.2811**
PLTNo	**18**	**23**	**-0.03714**	**0.06503**	**11**	**-0.57**	**0.5794**	**Bonferroni**	**1.0000**	**0.05**	**-0.1803**	**0.1060**	**-0.4246**	**0.3504**
PLTNo	**18**	**25**	**-0.1125**	**0.06503**	**11**	**-1.73**	**0.1116**	**Bonferroni**	**1.0000**	**0.05**	**-0.2556**	**0.03064**	**-0.5000**	**0.2750**
PLTNo	**19**	**21**	**0.02055**	**0.06503**	**11**	**0.32**	**0.7579**	**Bonferroni**	**1.0000**	**0.05**	**-0.1226**	**0.1637**	**-0.3670**	**0.4080**
PLTNo	**19**	**22**	**-0.05354**	**0.06503**	**11**	**-0.82**	**0.4278**	**Bonferroni**	**1.0000**	**0.05**	**-0.1967**	**0.08958**	**-0.4410**	**0.3340**
PLTNo	**19**	**23**	**0.01567**	**0.06503**	**11**	**0.24**	**0.8140**	**Bonferroni**	**1.0000**	**0.05**	**-0.1275**	**0.1588**	**-0.3718**	**0.4032**
PLTNo	**19**	**25**	**-0.05967**	**0.06503**	**11**	**-0.92**	**0.3785**	**Bonferroni**	**1.0000**	**0.05**	**-0.2028**	**0.08346**	**-0.4472**	**0.3278**
PLTNo	**21**	**22**	**-0.07409**	**0.06503**	**11**	**-1.14**	**0.2787**	**Bonferroni**	**1.0000**	**0.05**	**-0.2172**	**0.06903**	**-0.4616**	**0.3134**
PLTNo	**21**	**23**	**-0.00487**	**0.06503**	**11**	**-0.07**	**0.9416**	**Bonferroni**	**1.0000**	**0.05**	**-0.1480**	**0.1383**	**-0.3924**	**0.3826**
PLTNo	**21**	**25**	**-0.08021**	**0.06503**	**11**	**-1.23**	**0.2431**	**Bonferroni**	**1.0000**	**0.05**	**-0.2233**	**0.06291**	**-0.4677**	**0.3073**
PLTNo	**22**	**23**	**0.06922**	**0.06503**	**11**	**1.06**	**0.3099**	**Bonferroni**	**1.0000**	**0.05**	**-0.07391**	**0.2123**	**-0.3183**	**0.4567**
PLTNo	**22**	**25**	**-0.00612**	**0.06503**	**11**	**-0.09**	**0.9267**	**Bonferroni**	**1.0000**	**0.05**	**-0.1492**	**0.1370**	**-0.3936**	**0.3814**
PLTNo	**23**	**25**	**-0.07534**	**0.06503**	**11**	**-1.16**	**0.2712**	**Bonferroni**	**1.0000**	**0.05**	**-0.2185**	**0.06779**	**-0.4628**	**0.3122**

Mixed run for Question 2
Average Total Speed

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.03210572	**Variance**	0.00103078

Moments

Skewness	0.75282805	**Kurtosis**	1.98781932
Uncorrected SS	0.11544702	**Corrected SS**	0.11544702
Coeff Variation	.	**Std Error Mean**	0.00302025

Basic Statistical Measures

Location		Variability	
Mean	0.00000	**Std Deviation**	0.03211
Median	-0.00087	**Variance**	0.00103
Mode	-0.00000	**Range**	0.19056
		Interquartile Range	0.02455

Tests for Location: Mu0=0

Test		Statistic	p Value	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	-6.5	**Pr >= |M|**	0.2589
Signed Rank	**S**	-321.5	**Pr >= |S|**	0.3593

Tests for Normality

Test		Statistic	p Value	
Shapiro-Wilk	**W**	0.934691	**Pr < W**	<0.0001
Kolmogorov-Smirnov	**D**	0.152839	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.553438	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	2.820869	**Pr > A-Sq**	<0.0050

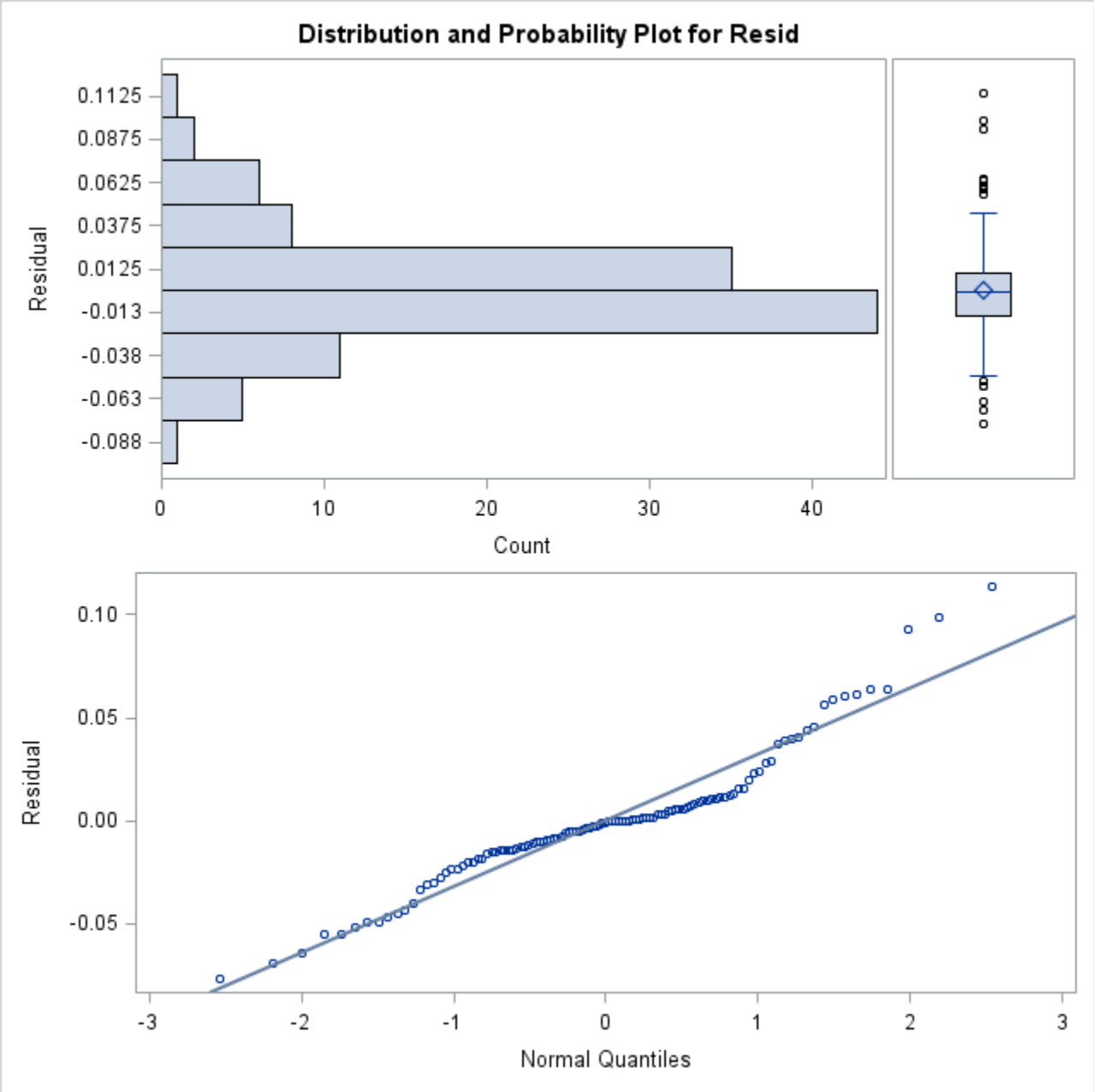
Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.113675338
99%	0.098290565
95%	0.060936563
90%	0.040257404
75% Q3	0.010049607
50% Median	-0.000871691
25% Q1	-0.014495570
10%	-0.040140680
5%	-0.051897997
1%	-0.068993663
0% Min	-0.076887752

Extreme Observations

Lowest	Highest

Value	Obs	Value	Obs
-0.0768878	73	0.0637188	112
-0.0689937	19	0.0641151	20
-0.0645071	95	0.0932330	72
-0.0553955	1	0.0982906	10
-0.0553123	92	0.1136753	98



Mixed run for Question 2
Average Speed off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	ASORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-206.01425035	
1	1	-206.01425035	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0	.	.	.	.	.	.
Residual	0.002776	0.000439	6.32	<.0001	0.05	0.002083	0.003885

Fit Statistics

-2 Res Log Likelihood	-206.0
AIC (smaller is better)	-204.0
AICC (smaller is better)	-204.0
BIC (smaller is better)	-202.2

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	6.31	0.0013

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	0.5119	0.01267	11	40.39	<.0001
ave(18,19,21,22,23,25)	0.4901	0.01075	11	45.57	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	0.97	0.5228
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	1.71	0.2176

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**8**	**0.5186**	**0.03042**	**11**	**17.05**	**<.0001**	**0.05**	**0.4517**	**0.5856**
PLTNo	**9**	**0.4957**	**0.02634**	**11**	**18.82**	**<.0001**	**0.05**	**0.4377**	**0.5537**
PLTNo	**10**	**0.5646**	**0.03725**	**11**	**15.16**	**<.0001**	**0.05**	**0.4826**	**0.6466**
PLTNo	**11**	**0.4960**	**0.02634**	**11**	**18.83**	**<.0001**	**0.05**	**0.4380**	**0.5540**
PLTNo	**12**	**0.5318**	**0.02634**	**11**	**20.19**	**<.0001**	**0.05**	**0.4738**	**0.5898**
PLTNo	**13**	**0.4644**	**0.03725**	**11**	**12.47**	**<.0001**	**0.05**	**0.3825**	**0.5464**
PLTNo	**18**	**0.4683**	**0.02634**	**11**	**17.78**	**<.0001**	**0.05**	**0.4103**	**0.5263**
PLTNo	**19**	**0.5043**	**0.02634**	**11**	**19.14**	**<.0001**	**0.05**	**0.4464**	**0.5623**
PLTNo	**21**	**0.4828**	**0.02634**	**11**	**18.33**	**<.0001**	**0.05**	**0.4248**	**0.5408**
PLTNo	**22**	**0.4637**	**0.02634**	**11**	**17.60**	**<.0001**	**0.05**	**0.4058**	**0.5217**
PLTNo	**23**	**0.5262**	**0.02634**	**11**	**19.98**	**<.0001**	**0.05**	**0.4683**	**0.5842**
PLTNo	**25**	**0.4954**	**0.02634**	**11**	**18.80**	**<.0001**	**0.05**	**0.4374**	**0.5534**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	8	9	0.02295	0.04024	11	0.57	0.5799	Bonferroni	1.0000	0.05	-0.06562	0.1115	-0.2168	0.2627
PLTNo	8	10	-0.04600	0.04810	11	-0.96	0.3594	Bonferroni	1.0000	0.05	-0.1519	0.05986	-0.3326	0.2406
PLTNo	8	11	0.02266	0.04024	11	0.56	0.5847	Bonferroni	1.0000	0.05	-0.06591	0.1112	-0.2171	0.2624
PLTNo	8	12	-0.01317	0.04024	11	-0.33	0.7497	Bonferroni	1.0000	0.05	-0.1017	0.07540	-0.2529	0.2266
PLTNo	8	13	0.05419	0.04810	11	1.13	0.2838	Bonferroni	1.0000	0.05	-0.05166	0.1601	-0.2324	0.3408
PLTNo	8	18	0.05035	0.04024	11	1.25	0.2368	Bonferroni	1.0000	0.05	-0.03822	0.1389	-0.1894	0.2901
PLTNo	8	19	0.01431	0.04024	11	0.36	0.7288	Bonferroni	1.0000	0.05	-0.07425	0.1029	-0.2255	0.2541
PLTNo	8	21	0.03586	0.04024	11	0.89	0.3919	Bonferroni	1.0000	0.05	-0.05271	0.1244	-0.2039	0.2756
PLTNo	8	22	0.05490	0.04024	11	1.36	0.1998	Bonferroni	1.0000	0.05	-0.03367	0.1435	-0.1849	0.2947
PLTNo	8	23	-0.00761	0.04024	11	-0.19	0.8535	Bonferroni	1.0000	0.05	-0.09617	0.08096	-0.2474	0.2322
PLTNo	8	25	0.02327	0.04024	11	0.58	0.5748	Bonferroni	1.0000	0.05	-0.06530	0.1118	-0.2165	0.2630
PLTNo	9	10	-0.06895	0.04563	11	-1.51	0.1589	Bonferroni	1.0000	0.05	-0.1694	0.03147	-0.3408	0.2029
PLTNo	9	11	-0.00029	0.03725	11	-0.01	0.9939	Bonferroni	1.0000	0.05	-0.08229	0.08171	-0.2223	0.2217
PLTNo	9	12	-0.03611	0.03725	11	-0.97	0.3532	Bonferroni	1.0000	0.05	-0.1181	0.04588	-0.2581	0.1859
PLTNo	9	13	0.03125	0.04563	11	0.68	0.5076	Bonferroni	1.0000	0.05	-0.06918	0.1317	-0.2406	0.3031
PLTNo	9	17	-0.09031	0.04563	11	-1.98	0.0734	Bonferroni	1.0000	0.05	-0.1907	0.01012	-0.3622	0.1816

PLTNo	9	18	0.02740	0.03725	11	0.74	0.4775	Bonferroni	1.0000	0.05	-0.05460	0.1094	-0.1946	0.2494
PLTNo	9	21	0.01291	0.03725	11	0.35	0.7354	Bonferroni	1.0000	0.05	-0.06908	0.0949 1	-0.2091	0.2349
PLTNo	9	22	0.03195	0.03725	11	0.86	0.4094	Bonferroni	1.0000	0.05	-0.05005	0.1139	-0.1900	0.2539
PLTNo	9	23	-0.03056	0.03725	11	-0.82	0.4295	Bonferroni	1.0000	0.05	-0.1126	0.0514 4	-0.2526	0.1914
PLTNo	9	25	0.00031 6	0.03725	11	0.01	0.9934	Bonferroni	1.0000	0.05	-0.08168	0.0823 1	-0.2217	0.2223
PLTNo	10	11	0.06866	0.04563	11	1.50	0.1605	Bonferroni	1.0000	0.05	-0.03177	0.1691	-0.2032	0.3405
PLTNo	10	12	0.03283	0.04563	11	0.72	0.4868	Bonferroni	1.0000	0.05	-0.06759	0.1333	-0.2391	0.3047
PLTNo	10	13	0.1002	0.05269	11	1.90	0.0837	Bonferroni	1.0000	0.05	-0.01577	0.2162	-0.2138	0.4141
PLTNo	10	18	0.09635	0.04563	11	2.11	0.0584	Bonferroni	1.0000	0.05	-0.00408	0.1968	-0.1755	0.3682
PLTNo	10	19	0.06031	0.04563	11	1.32	0.2130	Bonferroni	1.0000	0.05	-0.04011	0.1607	-0.2116	0.3322
PLTNo	10	21	0.08186	0.04563	11	1.79	0.1003	Bonferroni	1.0000	0.05	-0.01856	0.1823	-0.1900	0.3538
PLTNo	10	22	0.1009	0.04563	11	2.21	0.0491	Bonferroni	1.0000	0.05	0.000472	0.2013	-0.1710	0.3728
PLTNo	10	23	0.03839	0.04563	11	0.84	0.4180	Bonferroni	1.0000	0.05	-0.06203	0.1388	-0.2335	0.3103
PLTNo	10	25	0.06927	0.04563	11	1.52	0.1572	Bonferroni	1.0000	0.05	-0.03116	0.1697	-0.2026	0.3412
PLTNo	11	12	-0.03582	0.03725	11	-0.96	0.3569	Bonferroni	1.0000	0.05	-0.1178	0.0461 7	-0.2578	0.1862
PLTNo	11	13	0.03154	0.04563	11	0.69	0.5038	Bonferroni	1.0000	0.05	-0.06889	0.1320	-0.2404	0.3034
PLTNo	11	18	0.02769	0.03725	11	0.74	0.4729	Bonferroni	1.0000	0.05	-0.05431	0.1097	-0.1943	0.2497
PLTNo	11	19	-0.00835	0.03725	11	-0.22	0.8268	Bonferroni	1.0000	0.05	-0.09034	0.0736 5	-0.2303	0.2137

PLTNo	11	21	0.01320	0.03725	11	0.35	0.7297	Bonferroni	1.0000	0.05	-0.06879	0.09520	-0.2088	0.2352
PLTNo	11	22	0.03224	0.03725	11	0.87	0.4053	Bonferroni	1.0000	0.05	-0.04976	0.1142	-0.1898	0.2542
PLTNo	11	23	-0.03026	0.03725	11	-0.81	0.4338	Bonferroni	1.0000	0.05	-0.1123	0.05173	-0.2523	0.1917
PLTNo	11	25	0.000608	0.03725	11	0.02	0.9873	Bonferroni	1.0000	0.05	-0.08139	0.08260	-0.2214	0.2226
PLTNo	12	13	0.06736	0.04563	11	1.48	0.1679	Bonferroni	1.0000	0.05	-0.03306	0.1678	-0.2045	0.3392
PLTNo	12	18	0.06351	0.03725	11	1.70	0.1163	Bonferroni	1.0000	0.05	-0.01848	0.1455	-0.1585	0.2855
PLTNo	12	19	0.02748	0.03725	11	0.74	0.4762	Bonferroni	1.0000	0.05	-0.05452	0.1095	-0.1945	0.2495
PLTNo	12	21	0.04903	0.03725	11	1.32	0.2149	Bonferroni	1.0000	0.05	-0.03297	0.1310	-0.1730	0.2710
PLTNo	12	22	0.06806	0.03725	11	1.83	0.0949	Bonferroni	1.0000	0.05	-0.01393	0.1501	-0.1539	0.2901
PLTNo	12	23	0.005560	0.03725	11	0.15	0.8841	Bonferroni	1.0000	0.05	-0.07644	0.08756	-0.2164	0.2276
PLTNo	12	25	0.03643	0.03725	11	0.98	0.3491	Bonferroni	1.0000	0.05	-0.04557	0.1184	-0.1856	0.2584
PLTNo	13	18	-0.00385	0.04563	11	-0.08	0.9343	Bonferroni	1.0000	0.05	-0.1043	0.09658	-0.2757	0.2680
PLTNo	13	19	-0.03988	0.04563	11	-0.87	0.4007	Bonferroni	1.0000	0.05	-0.1403	0.06054	-0.3118	0.2320
PLTNo	13	21	-0.01833	0.04563	11	-0.40	0.6955	Bonferroni	1.0000	0.05	-0.1188	0.08209	-0.2902	0.2536
PLTNo	13	22	0.000702	0.04563	11	0.02	0.9880	Bonferroni	1.0000	0.05	-0.09972	0.1011	-0.2712	0.2726
PLTNo	13	23	-0.06180	0.04563	11	-1.35	0.2028	Bonferroni	1.0000	0.05	-0.1622	0.03862	-0.3337	0.2101
PLTNo	13	25	-0.03093	0.04563	11	-0.68	0.5119	Bonferroni	1.0000	0.05	-0.1314	0.06950	-0.3028	0.2410
PLTNo	18	19	-0.03604	0.03725	11	-0.97	0.3542	Bonferroni	1.0000	0.05	-0.1180	0.04596	-0.2580	0.1860

PLTNo	**18**	**21**	**-0.01449**	**0.03725**	**11**	**-0.39**	**0.7048**	**Bonferroni**	**1.0000**	**0.05**	**-0.09648**	**0.06751**	**-0.2365**	**0.2075**
PLTNo	**18**	**22**	**0.004549**	**0.03725**	**11**	**0.12**	**0.9050**	**Bonferroni**	**1.0000**	**0.05**	**-0.07745**	**0.08655**	**-0.2174**	**0.2265**
PLTNo	**18**	**23**	**-0.05795**	**0.03725**	**11**	**-1.56**	**0.1481**	**Bonferroni**	**1.0000**	**0.05**	**-0.1400**	**0.02404**	**-0.2800**	**0.1640**
PLTNo	**18**	**25**	**-0.02708**	**0.03725**	**11**	**-0.73**	**0.4824**	**Bonferroni**	**1.0000**	**0.05**	**-0.1091**	**0.05491**	**-0.2491**	**0.1949**
PLTNo	**19**	**21**	**0.02155**	**0.03725**	**11**	**0.58**	**0.5746**	**Bonferroni**	**1.0000**	**0.05**	**-0.06045**	**0.1035**	**-0.2004**	**0.2435**
PLTNo	**19**	**22**	**0.04058**	**0.03725**	**11**	**1.09**	**0.2993**	**Bonferroni**	**1.0000**	**0.05**	**-0.04141**	**0.1226**	**-0.1814**	**0.2626**
PLTNo	**19**	**23**	**-0.02192**	**0.03725**	**11**	**-0.59**	**0.5682**	**Bonferroni**	**1.0000**	**0.05**	**-0.1039**	**0.06008**	**-0.2439**	**0.2001**
PLTNo	**19**	**25**	**0.008954**	**0.03725**	**11**	**0.24**	**0.8145**	**Bonferroni**	**1.0000**	**0.05**	**-0.07304**	**0.09095**	**-0.2130**	**0.2310**
PLTNo	**21**	**22**	**0.01904**	**0.03725**	**11**	**0.51**	**0.6195**	**Bonferroni**	**1.0000**	**0.05**	**-0.06296**	**0.1010**	**-0.2030**	**0.2410**
PLTNo	**21**	**23**	**-0.04347**	**0.03725**	**11**	**-1.17**	**0.2680**	**Bonferroni**	**1.0000**	**0.05**	**-0.1255**	**0.03853**	**-0.2655**	**0.1785**
PLTNo	**21**	**25**	**-0.01260**	**0.03725**	**11**	**-0.34**	**0.7417**	**Bonferroni**	**1.0000**	**0.05**	**-0.09459**	**0.06940**	**-0.2346**	**0.2094**
PLTNo	**22**	**23**	**-0.06250**	**0.03725**	**11**	**-1.68**	**0.1216**	**Bonferroni**	**1.0000**	**0.05**	**-0.1445**	**0.01949**	**-0.2845**	**0.1595**
PLTNo	**22**	**25**	**-0.03163**	**0.03725**	**11**	**-0.85**	**0.4139**	**Bonferroni**	**1.0000**	**0.05**	**-0.1136**	**0.05037**	**-0.2536**	**0.1904**
PLTNo	**23**	**25**	**0.03087**	**0.03725**	**11**	**0.83**	**0.4249**	**Bonferroni**	**1.0000**	**0.05**	**-0.05112**	**0.1129**	**-0.1911**	**0.2529**

Mixed run for Question 2
Average Speed off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.04452763	**Variance**	0.00198271

Moments

Skewness	0.34863605	**Kurtosis**	0.71198088
Uncorrected SS	0.22206346	**Corrected SS**	0.22206346
Coeff Variation	.	**Std Error Mean**	0.00418881

Basic Statistical Measures

Location		**Variability**	
Mean	0	**Std Deviation**	0.04453
Median	2.22E-16	**Variance**	0.00198
Mode	.	**Range**	0.24251
		Interquartile Range	0.05197

Tests for Location: Mu0=0

Test	**Statistic**		**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	1.5	**Pr >= |M|**	0.8509
Signed Rank	**S**	-62.5	**Pr >= |S|**	0.8588

Tests for Normality

Test	**Statistic**		**p Value**	
Shapiro-Wilk	**W**	0.979833	**Pr < W**	0.0858
Kolmogorov-Smirnov	**D**	0.085227	**Pr > D**	0.0429
Cramer-von Mises	**W-Sq**	0.109019	**Pr > W-Sq**	0.0875
Anderson-Darling	**A-Sq**	0.682817	**Pr > A-Sq**	0.0767

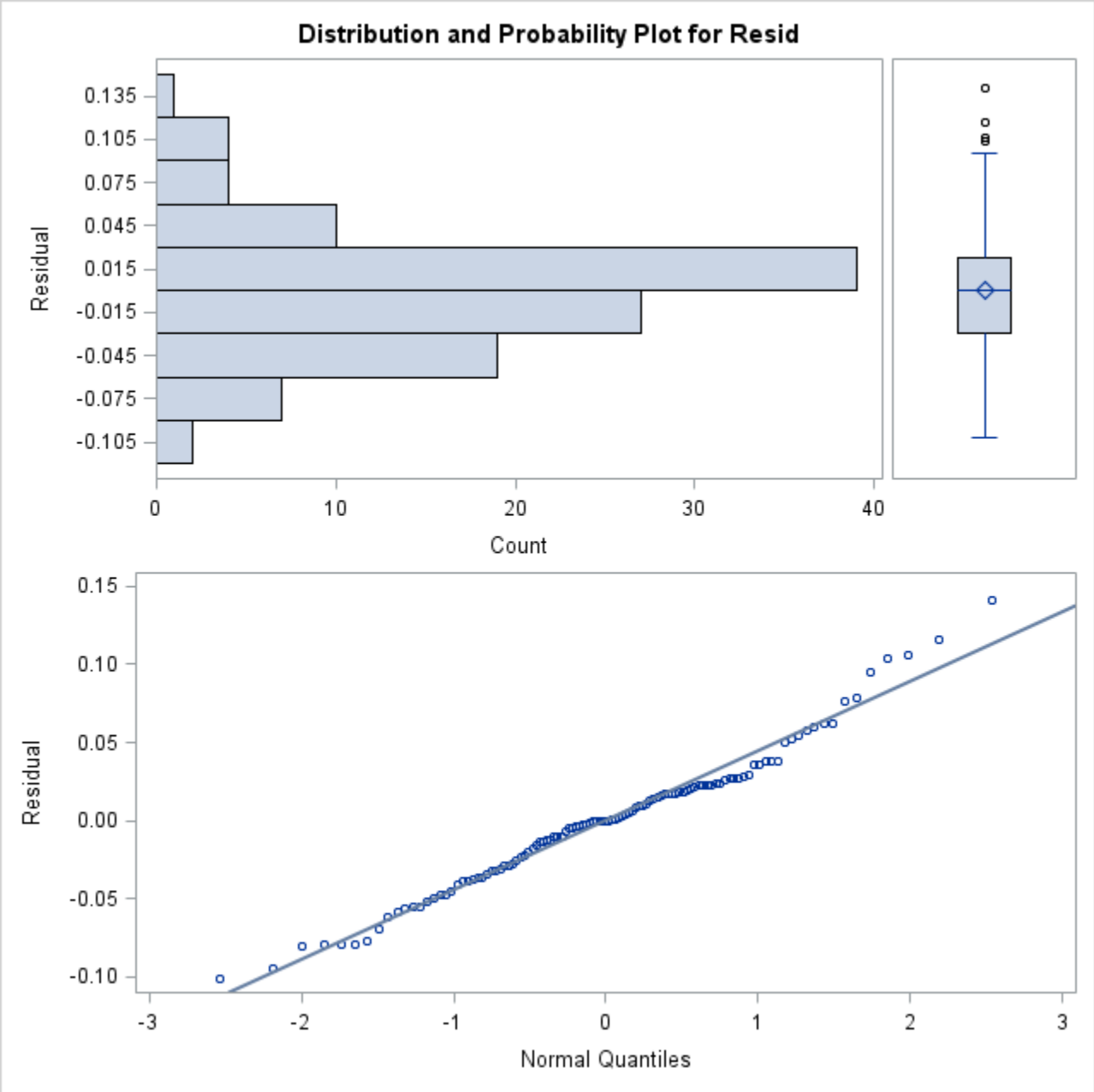
Quantiles (Definition 5)

Quantile	**Estimate**
100% Max	0.1407496
99%	0.1162069
95%	0.0789372
90%	0.0542222
75% Q3	0.0230829
50% Median	0.0000000
25% Q1	-0.0288873
10%	-0.0554263
5%	-0.0792241
1%	-0.0951276
0% Min	-0.1017639

Extreme Observations

Lowest	**Highest**

Value	Obs	Value	Obs
-0.1017639	92	0.0952329	86
-0.0951276	39	0.1036196	91
-0.0807315	11	0.1064194	75
-0.0799748	13	0.1162069	10
-0.0795641	105	0.1407496	103



Mixed run for Question 2
%off Road time with Turing Radius less than 30m

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ORTTR
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled

Optimization Information

Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**2**	-0.648253783	0.12113683	104.6996
1	**0**	**1**	-0.446617934	0.00165994	104.2631
2	**0**	**0**	-0.44607549	0.00000000	104.2605

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-0.45
Generalized Chi-Square	80.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Scale	117.41	18.7217

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	6.22	0.0014

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	0.3507	0.04506	11	7.78	<.0001
ave(18,19,21,22,23,25)	0.3329	0.03812	11	8.73	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	1.62	0.2190
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	0.09	0.7681

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
8	**0.2685**	**0.1071**	**11**	**2.51**	**0.0291**	**0.05**	**0.03279**	**0.5041**	**0.5667**	**0.02629**	**0.5082**	**0.6234**

9	0.4447	0.09418	11	4.72	0.0006	0.05	0.2374	0.6519	0.6094	0.02242	0.5591	0.6574
10	0.2261	0.1308	11	1.73	0.1119	0.05	-0.06182	0.5139	0.5563	0.03228	0.4846	0.6257
11	0.3035	0.09296	11	3.26	0.0075	0.05	0.09890	0.5081	0.5753	0.02271	0.5247	0.6244
12	0.2696	0.09274	11	2.91	0.0143	0.05	0.06552	0.4737	0.5670	0.02277	0.5164	0.6163
13	0.5920	0.1357	11	4.36	0.0011	0.05	0.2933	0.8906	0.6438	0.03112	0.5728	0.7090
18	0.3762	0.09353	11	4.02	0.0020	0.05	0.1704	0.5821	0.5930	0.02257	0.5425	0.6415
19	0.2639	0.09270	11	2.85	0.0159	0.05	0.05986	0.4679	0.5656	0.02278	0.5150	0.6149
21	0.5299	0.09514	11	5.57	0.0002	0.05	0.3205	0.7393	0.6295	0.02219	0.5794	0.6768
22	0.4284	0.09402	11	4.56	0.0008	0.05	0.2215	0.6354	0.6055	0.02246	0.5552	0.6537
23	0.1388	0.09212	11	1.51	0.1600	0.05	-0.06395	0.3416	0.5346	0.02292	0.4840	0.5846
25	0.2600	0.09268	11	2.81	0.0171	0.05	0.05604	0.4640	0.5646	0.02278	0.5140	0.6140

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
8	9	-0.1762	0.1426	11	-1.24	0.2423	1.0000	0.05	-0.4901	0.1377	-1.0259	0.6735
8	10	0.04239	0.1690	11	0.25	0.8066	1.0000	0.05	-0.3296	0.4144	-0.9649	1.0497
8	11	-0.03505	0.1418	11	-0.25	0.8093	1.0000	0.05	-0.3471	0.2770	-0.8800	0.8099
8	12	-0.00118	0.1416	11	-0.01	0.9935	1.0000	0.05	-0.3130	0.3106	-0.8453	0.8429
8	13	-0.3235	0.1729	11	-1.87	0.0881	1.0000	0.05	-0.7040	0.05694	-1.3535	0.7065
8	18	-0.1078	0.1422	11	-0.76	0.4644	1.0000	0.05	-0.4207	0.2052	-0.9550	0.7394
8	19	0.004560	0.1416	11	0.03	0.9749	1.0000	0.05	-0.3072	0.3163	-0.8394	0.8485
8	21	-0.2614	0.1432	11	-1.83	0.0952	1.0000	0.05	-0.5767	0.05384	-1.1150	0.5921
8	22	-0.1600	0.1425	11	-1.12	0.2854	1.0000	0.05	-0.4736	0.1536	-1.0091	0.6891
8	23	0.1297	0.1412	11	0.92	0.3784	1.0000	0.05	-0.1812	0.4405	-0.7120	0.9713
8	25	0.008434	0.1416	11	0.06	0.9536	1.0000	0.05	-0.3033	0.3201	-0.8354	0.8523
9	10	0.2186	0.1612	11	1.36	0.2022	1.0000	0.05	-0.1361	0.5733	-0.7418	1.1790
9	11	0.1412	0.1323	11	1.07	0.3090	1.0000	0.05	-0.1501	0.4324	-0.6474	0.9297
9	12	0.1750	0.1322	11	1.32	0.2123	1.0000	0.05	-0.1159	0.4659	-0.6126	0.9626
9	13	-0.1473	0.1652	11	-0.89	0.3916	1.0000	0.05	-0.5109	0.2163	-1.1316	0.8370
9	18	0.06844	0.1327	11	0.52	0.6163	1.0000	0.05	-0.2237	0.3606	-0.7225	0.8594
9	19	0.1808	0.1321	11	1.37	0.1986	1.0000	0.05	-0.1101	0.4716	-0.6067	0.9682
9	21	-0.08522	0.1339	11	-0.64	0.5374	1.0000	0.05	-0.3799	0.2094	-0.8830	0.7125
9	22	0.01622	0.1331	11	0.12	0.9052	1.0000	0.05	-0.2767	0.3091	-0.7768	0.8092
9	23	0.3059	0.1317	11	2.32	0.0405	1.0000	0.05	0.01590	0.5958	-0.4792	1.0909
9	25	0.1846	0.1321	11	1.40	0.1898	1.0000	0.05	-0.1062	0.4755	-0.6027	0.9720
10	11	-0.07745	0.1605	11	-0.48	0.6388	1.0000	0.05	-0.4306	0.2757	-1.0336	0.8788
10	12	-0.04357	0.1603	11	-0.27	0.7908	1.0000	0.05	-0.3965	0.3093	-0.9990	0.9119

10	13	-0.3659	0.1885	11	-1.94	0.0783	1.0000	0.05	-0.7807	0.04892	-1.4890	0.7572
10	18	-0.1502	0.1608	11	-0.93	0.3704	1.0000	0.05	-0.5041	0.2038	-1.1083	0.8080
10	19	-0.03783	0.1603	11	-0.24	0.8178	1.0000	0.05	-0.3907	0.3150	-0.9931	0.9175
10	21	-0.3038	0.1617	11	-1.88	0.0871	1.0000	0.05	-0.6598	0.05217	-1.2676	0.6600
10	22	-0.2024	0.1611	11	-1.26	0.2350	1.0000	0.05	-0.5569	0.1522	-1.1622	0.7575
10	23	0.08726	0.1600	11	0.55	0.5963	1.0000	0.05	-0.2649	0.4394	-0.8661	1.0406
10	25	-0.03396	0.1603	11	-0.21	0.8361	1.0000	0.05	-0.3868	0.3189	-0.9892	0.9213
11	12	0.03387	0.1313	11	0.26	0.8012	1.0000	0.05	-0.2551	0.3229	-0.7486	0.8163
11	13	-0.2885	0.1645	11	-1.75	0.1073	1.0000	0.05	-0.6505	0.07358	-1.2686	0.6917
11	18	-0.07271	0.1319	11	-0.55	0.5924	1.0000	0.05	-0.3630	0.2175	-0.8585	0.7131
11	19	0.03961	0.1313	11	0.30	0.7685	1.0000	0.05	-0.2493	0.3286	-0.7427	0.8219
11	21	-0.2264	0.1330	11	-1.70	0.1168	1.0000	0.05	-0.5191	0.06640	-1.0190	0.5663
11	22	-0.1249	0.1322	11	-0.94	0.3650	1.0000	0.05	-0.4159	0.1661	-0.9128	0.6629
11	23	0.1647	0.1309	11	1.26	0.2343	1.0000	0.05	-0.1233	0.4528	-0.6152	0.9446
11	25	0.04349	0.1313	11	0.33	0.7466	1.0000	0.05	-0.2454	0.3324	-0.7387	0.8257
12	13	-0.3223	0.1644	11	-1.96	0.0757	1.0000	0.05	-0.6841	0.03942	-1.3017	0.6571
12	18	-0.1066	0.1317	11	-0.81	0.4355	1.0000	0.05	-0.3965	0.1833	-0.8914	0.6783
12	19	0.005742	0.1311	11	0.04	0.9659	1.0000	0.05	-0.2829	0.2943	-0.7756	0.7871
12	21	-0.2602	0.1329	11	-1.96	0.0760	1.0000	0.05	-0.5527	0.03218	-1.0520	0.5315
12	22	-0.1588	0.1321	11	-1.20	0.2544	1.0000	0.05	-0.4495	0.1318	-0.9457	0.6281
12	23	0.1308	0.1307	11	1.00	0.3384	1.0000	0.05	-0.1569	0.4185	-0.6481	0.9097
12	25	0.009616	0.1311	11	0.07	0.9428	1.0000	0.05	-0.2789	0.2982	-0.7716	0.7909
13	18	0.2157	0.1648	11	1.31	0.2172	1.0000	0.05	-0.1470	0.5785	-0.7663	1.1978
13	19	0.3281	0.1643	11	2.00	0.0713	1.0000	0.05	-0.03364	0.6898	-0.6512	1.3074
13	21	0.06209	0.1657	11	0.37	0.7151	1.0000	0.05	-0.3027	0.4269	-0.9255	1.0497
13	22	0.1635	0.1651	11	0.99	0.3432	1.0000	0.05	-0.1998	0.5269	-0.8202	1.1473
13	23	0.4532	0.1640	11	2.76	0.0185	1.0000	0.05	0.09217	0.8142	-0.5242	1.4305
13	25	0.3319	0.1643	11	2.02	0.0684	1.0000	0.05	-0.02974	0.6936	-0.6473	1.3112
18	19	0.1123	0.1317	11	0.85	0.4119	1.0000	0.05	-0.1775	0.4022	-0.6724	0.8970
18	21	-0.1537	0.1334	11	-1.15	0.2739	1.0000	0.05	-0.4473	0.1400	-0.9487	0.6414
18	22	-0.05222	0.1326	11	-0.39	0.7013	1.0000	0.05	-0.3441	0.2397	-0.8425	0.7380
18	23	0.2374	0.1313	11	1.81	0.0979	1.0000	0.05	-0.05153	0.5264	-0.5449	1.0197
18	25	0.1162	0.1317	11	0.88	0.3964	1.0000	0.05	-0.1736	0.4060	-0.6684	0.9008
19	21	-0.2660	0.1328	11	-2.00	0.0705	1.0000	0.05	-0.5584	0.02639	-1.0576	0.5256
19	22	-0.1645	0.1320	11	-1.25	0.2385	1.0000	0.05	-0.4551	0.1261	-0.9513	0.6222
19	23	0.1251	0.1307	11	0.96	0.3590	1.0000	0.05	-0.1626	0.4127	-0.6537	0.9039
19	25	0.003875	0.1311	11	0.03	0.9769	1.0000	0.05	-0.2846	0.2924	-0.7772	0.7850
21	22	0.1014	0.1338	11	0.76	0.4642	1.0000	0.05	-0.1930	0.3958	-0.6956	0.8985

21	**23**	**0.3911**	**0.1324**	**11**	**2.95**	**0.0131**	**1.0000**	**0.05**	**0.09959**	**0.6826**	**-0.3981**	**1.1802**
21	**25**	**0.2699**	**0.1328**	**11**	**2.03**	**0.0670**	**1.0000**	**0.05**	**-0.02248**	**0.5622**	**-0.5216**	**1.0613**
22	**23**	**0.2896**	**0.1316**	**11**	**2.20**	**0.0500**	**1.0000**	**0.05**	**-0.00007**	**0.5793**	**-0.4947**	**1.0740**
22	**25**	**0.1684**	**0.1320**	**11**	**1.28**	**0.2283**	**1.0000**	**0.05**	**-0.1221**	**0.4590**	**-0.6182**	**0.9551**
23	**25**	**-0.1212**	**0.1307**	**11**	**-0.93**	**0.3735**	**1.0000**	**0.05**	**-0.4088**	**0.1664**	**-0.8999**	**0.6574**

Mixed run for Question 2
Total Distance Travled

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	TDT
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0

Optimization Information

Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	110.74194034	2.00000000	7.085E-8
1	**0**	**5**	92.89707586	0.34904183	6.488E-6
2	**0**	**4**	93.944964829	0.17519470	5.695E-8
3	**0**	**4**	94.120384366	0.02493056	2.228E-8
4	**0**	**2**	94.078672996	0.01164962	1.15E-6
5	**0**	**2**	94.1084775	0.00447363	2.556E-7
6	**0**	**1**	94.100867274	0.00199333	4.369E-6
7	**0**	**1**	94.106246954	0.00080726	1.586E-6
8	**0**	**1**	94.104846989	0.00035847	1.47E-7
9	**0**	**1**	94.105816738	0.00014600	5.189E-8
10	**0**	**1**	94.105558683	0.00006474	5.015E-9
11	**0**	**1**	94.105733676	0.00002640	1.185E-9
12	**0**	**1**	94.105686179	0.00001170	3.18E-10
13	**0**	**1**	94.105717765	0.00000478	8.31E-10
14	**0**	**0**	94.105709029	0.00000211	4.438E-6
15	**0**	**0**	94.105715392	0.00000014	1.977E-6
16	**0**	**0**	94.105714415	0.00000008	2.364E-6
17	**0**	**0**	94.10571499	0.00000001	2.137E-6
18	**0**	**0**	94.105714899	0.00000001	2.173E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	94.11
Generalized Chi-Square	8.31
Gener. Chi-Square / DF	0.10

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.1193	0.08636
Residual	0.1039	0.01768

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.58	0.2111

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	11.8477	0.1609	11	73.64	<.0001
ave(18,19,21,22,23,25)	11.4083	0.1556	11	73.33	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	0.83	0.6176
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	3.85	0.0754

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
8	11.5749	0.3923	11	29.51	<.0001	0.05	10.7115	12.4383	106391	41735	44868	252274
9	12.0956	0.3811	11	31.74	<.0001	0.05	11.2569	12.9344	179091	68248	77411	414325
10	11.7220	0.4138	11	28.33	<.0001	0.05	10.8114	12.6327	123257	50998	49581	306412
11	12.0297	0.3811	11	31.57	<.0001	0.05	11.1909	12.8685	167660	63893	72471	387881
12	12.1612	0.3811	11	31.91	<.0001	0.05	11.3224	12.9999	191220	72871	82654	442387
13	11.5029	0.4138	11	27.80	<.0001	0.05	10.5923	12.4136	99003	40963	39825	246118
18	11.6448	0.3811	11	30.56	<.0001	0.05	10.8061	12.4836	114101	43482	49320	263972
19	11.6014	0.3811	11	30.44	<.0001	0.05	10.7626	12.4401	109245	41632	47221	252738
21	11.3365	0.3811	11	29.75	<.0001	0.05	10.4978	12.1753	83830	31946	36235	193941
22	10.9342	0.3811	11	28.69	<.0001	0.05	10.0955	11.7730	56062	21364	24233	129699
23	11.5684	0.3811	11	30.36	<.0001	0.05	10.7296	12.4071	105701	40281	45689	244539
25	11.3646	0.3811	11	29.82	<.0001	0.05	10.5258	12.2033	86212	32854	37265	199452

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
8	9	-0.5208	0.5469	11	-0.95	0.3614	1.0000	0.05	-1.7245	0.6830	-3.7797	2.7382
8	10	-0.1472	0.5701	11	-0.26	0.8011	1.0000	0.05	-1.4020	1.1077	-3.5446	3.2503
8	11	-0.4548	0.5469	11	-0.83	0.4233	1.0000	0.05	-1.6585	0.7489	-3.7138	2.8041
8	12	-0.5863	0.5469	11	-1.07	0.3067	1.0000	0.05	-1.7900	0.6174	-3.8453	2.6727
8	13	0.07197	0.5701	11	0.13	0.9018	1.0000	0.05	-1.1829	1.3269	-3.3255	3.4694
8	18	-0.06996	0.5469	11	-0.13	0.9005	1.0000	0.05	-1.2737	1.1338	-3.3289	3.1890
8	19	-0.02647	0.5469	11	-0.05	0.9623	1.0000	0.05	-1.2302	1.1773	-3.2854	3.2325
8	21	0.2383	0.5469	11	0.44	0.6714	1.0000	0.05	-0.9654	1.4421	-3.0206	3.4973

8	22	0.6407	0.5469	11	1.17	0.2662	1.0000	0.05	-0.5631	1.8444	-2.6183	3.8996
8	23	0.006510	0.5469	11	0.01	0.9907	1.0000	0.05	-1.1972	1.2102	-3.2524	3.2655
8	25	0.2103	0.5469	11	0.38	0.7079	1.0000	0.05	-0.9934	1.4140	-3.0486	3.4693
9	10	0.3736	0.5625	11	0.66	0.5202	1.0000	0.05	-0.8645	1.6117	-2.9783	3.7255
9	11	0.06595	0.5389	11	0.12	0.9048	1.0000	0.05	-1.1202	1.2521	-3.1455	3.2774
9	12	-0.06553	0.5389	11	-0.12	0.9054	1.0000	0.05	-1.2517	1.1207	-3.2770	3.1459
9	13	0.5927	0.5625	11	1.05	0.3146	1.0000	0.05	-0.6453	1.8308	-2.7592	3.9447
9	18	0.4508	0.5389	11	0.84	0.4207	1.0000	0.05	-0.7354	1.6370	-2.7607	3.6623
9	19	0.4943	0.5389	11	0.92	0.3787	1.0000	0.05	-0.6919	1.6805	-2.7172	3.7058
9	21	0.7591	0.5389	11	1.41	0.1866	1.0000	0.05	-0.4271	1.9453	-2.4524	3.9706
9	22	1.1614	0.5389	11	2.16	0.0542	1.0000	0.05	-0.02475	2.3476	-2.0500	4.3729
9	23	0.5273	0.5389	11	0.98	0.3489	1.0000	0.05	-0.6589	1.7135	-2.6842	3.7387
9	25	0.7311	0.5389	11	1.36	0.2021	1.0000	0.05	-0.4551	1.9173	-2.4804	3.9425
10	11	-0.3077	0.5625	11	-0.55	0.5953	1.0000	0.05	-1.5457	0.9304	-3.6596	3.0443
10	12	-0.4392	0.5625	11	-0.78	0.4515	1.0000	0.05	-1.6772	0.7989	-3.7911	2.9128
10	13	0.2191	0.5851	11	0.37	0.7152	1.0000	0.05	-1.0687	1.5070	-3.2676	3.7059
10	18	0.07719	0.5625	11	0.14	0.8933	1.0000	0.05	-1.1609	1.3153	-3.2747	3.4291
10	19	0.1207	0.5625	11	0.21	0.8341	1.0000	0.05	-1.1174	1.3587	-3.2313	3.4726
10	21	0.3855	0.5625	11	0.69	0.5073	1.0000	0.05	-0.8526	1.6236	-2.9664	3.7374
10	22	0.7878	0.5625	11	1.40	0.1889	1.0000	0.05	-0.4503	2.0259	-2.5641	4.1397
10	23	0.1537	0.5625	11	0.27	0.7898	1.0000	0.05	-1.0844	1.3917	-3.1983	3.5056
10	25	0.3575	0.5625	11	0.64	0.5381	1.0000	0.05	-0.8806	1.5955	-2.9945	3.7094
11	12	-0.1315	0.5389	11	-0.24	0.8117	1.0000	0.05	-1.3177	1.0547	-3.3429	3.0800
11	13	0.5268	0.5625	11	0.94	0.3691	1.0000	0.05	-0.7113	1.7649	-2.8251	3.8787
11	18	0.3849	0.5389	11	0.71	0.4900	1.0000	0.05	-0.8013	1.5710	-2.8266	3.5963
11	19	0.4283	0.5389	11	0.79	0.4435	1.0000	0.05	-0.7578	1.6145	-2.7831	3.6398
11	21	0.6931	0.5389	11	1.29	0.2248	1.0000	0.05	-0.4930	1.8793	-2.5183	3.9046
11	22	1.0955	0.5389	11	2.03	0.0669	1.0000	0.05	-0.09070	2.2817	-2.1160	4.3069
11	23	0.4613	0.5389	11	0.86	0.4103	1.0000	0.05	-0.7249	1.6475	-2.7501	3.6728
11	25	0.6651	0.5389	11	1.23	0.2429	1.0000	0.05	-0.5211	1.8513	-2.5463	3.8766
12	13	0.6583	0.5625	11	1.17	0.2666	1.0000	0.05	-0.5798	1.8963	-2.6937	4.0102
12	18	0.5163	0.5389	11	0.96	0.3586	1.0000	0.05	-0.6698	1.7025	-2.6951	3.7278
12	19	0.5598	0.5389	11	1.04	0.3212	1.0000	0.05	-0.6264	1.7460	-2.6516	3.7713
12	21	0.8246	0.5389	11	1.53	0.1542	1.0000	0.05	-0.3616	2.0108	-2.3868	4.0361
12	22	1.2270	0.5389	11	2.28	0.0438	1.0000	0.05	0.04078	2.4132	-1.9845	4.4384
12	23	0.5928	0.5389	11	1.10	0.2948	1.0000	0.05	-0.5934	1.7790	-2.6187	3.8043
12	25	0.7966	0.5389	11	1.48	0.1674	1.0000	0.05	-0.3896	1.9828	-2.4149	4.0081
13	18	-0.1419	0.5625	11	-0.25	0.8054	1.0000	0.05	-1.3800	1.0961	-3.4939	3.2100

13	**19**	**-0.09844**	**0.5625**	**11**	**-0.18**	**0.8643**	**1.0000**	**0.05**	**-1.3365**	**1.1396**	**-3.4504**	**3.2535**
13	**21**	**0.1664**	**0.5625**	**11**	**0.30**	**0.7729**	**1.0000**	**0.05**	**-1.0717**	**1.4044**	**-3.1856**	**3.5183**
13	**22**	**0.5687**	**0.5625**	**11**	**1.01**	**0.3337**	**1.0000**	**0.05**	**-0.6694**	**1.8068**	**-2.7832**	**3.9206**
13	**23**	**-0.06546**	**0.5625**	**11**	**-0.12**	**0.9095**	**1.0000**	**0.05**	**-1.3035**	**1.1726**	**-3.4174**	**3.2865**
13	**25**	**0.1383**	**0.5625**	**11**	**0.25**	**0.8103**	**1.0000**	**0.05**	**-1.0997**	**1.3764**	**-3.2136**	**3.4903**
18	**19**	**0.04349**	**0.5389**	**11**	**0.08**	**0.9371**	**1.0000**	**0.05**	**-1.1427**	**1.2297**	**-3.1680**	**3.2550**
18	**21**	**0.3083**	**0.5389**	**11**	**0.57**	**0.5788**	**1.0000**	**0.05**	**-0.8779**	**1.4945**	**-2.9032**	**3.5198**
18	**22**	**0.7106**	**0.5389**	**11**	**1.32**	**0.2141**	**1.0000**	**0.05**	**-0.4756**	**1.8968**	**-2.5008**	**3.9221**
18	**23**	**0.07647**	**0.5389**	**11**	**0.14**	**0.8897**	**1.0000**	**0.05**	**-1.1097**	**1.2627**	**-3.1350**	**3.2879**
18	**25**	**0.2803**	**0.5389**	**11**	**0.52**	**0.6133**	**1.0000**	**0.05**	**-0.9059**	**1.4665**	**-2.9312**	**3.4917**
19	**21**	**0.2648**	**0.5389**	**11**	**0.49**	**0.6328**	**1.0000**	**0.05**	**-0.9214**	**1.4510**	**-2.9467**	**3.4763**
19	**22**	**0.6671**	**0.5389**	**11**	**1.24**	**0.2415**	**1.0000**	**0.05**	**-0.5190**	**1.8533**	**-2.5443**	**3.8786**
19	**23**	**0.03298**	**0.5389**	**11**	**0.06**	**0.9523**	**1.0000**	**0.05**	**-1.1532**	**1.2192**	**-3.1785**	**3.2444**
19	**25**	**0.2368**	**0.5389**	**11**	**0.44**	**0.6689**	**1.0000**	**0.05**	**-0.9494**	**1.4230**	**-2.9747**	**3.4482**
21	**22**	**0.4023**	**0.5389**	**11**	**0.75**	**0.4710**	**1.0000**	**0.05**	**-0.7839**	**1.5885**	**-2.8091**	**3.6138**
21	**23**	**-0.2318**	**0.5389**	**11**	**-0.43**	**0.6754**	**1.0000**	**0.05**	**-1.4180**	**0.9544**	**-3.4433**	**2.9796**
21	**25**	**-0.02802**	**0.5389**	**11**	**-0.05**	**0.9595**	**1.0000**	**0.05**	**-1.2142**	**1.1582**	**-3.2395**	**3.1834**
22	**23**	**-0.6342**	**0.5389**	**11**	**-1.18**	**0.2642**	**1.0000**	**0.05**	**-1.8203**	**0.5520**	**-3.8456**	**2.5773**
22	**25**	**-0.4304**	**0.5389**	**11**	**-0.80**	**0.4415**	**1.0000**	**0.05**	**-1.6165**	**0.7558**	**-3.6418**	**2.7811**
23	**25**	**0.2038**	**0.5389**	**11**	**0.38**	**0.7125**	**1.0000**	**0.05**	**-0.9824**	**1.3900**	**-3.0077**	**3.4153**

Mixed run for Question 2
Distance Travled off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	DTOR
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	153.57551837	1.08937058	2.54E-6
1	**0**	**5**	119.99891093	0.57801020	6.807E-6
2	**0**	**3**	123.83309344	0.11037092	7.825E-6
3	**0**	**3**	124.18246324	0.02798512	1.804E-7
4	**0**	**2**	124.11414595	0.00934460	0.000021
5	**0**	**2**	124.14130514	0.00339592	8.558E-6
6	**0**	**2**	124.1323467	0.00116752	1.003E-6
7	**0**	**2**	124.13560426	0.00041524	1.273E-7
8	**0**	**2**	124.13447847	0.00014502	1.551E-8
9	**0**	**2**	124.13487853	0.00005123	1.936E-9
10	**0**	**1**	124.13473855	0.00002212	0.000017
11	**0**	**1**	124.13478942	0.00001339	0.00001
12	**0**	**1**	124.13476724	0.00000694	5.245E-6

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
13	**0**	**1**	124.13477912	0.00000360	2.721E-6
14	**0**	**0**	124.13477307	0.00000018	6.1E-6
15	**0**	**0**	124.13477555	0.00000002	5.103E-6
16	**0**	**0**	124.13477533	0.00000000	5.24E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	124.13
Generalized Chi-Square	13.06
Gener. Chi-Square / DF	0.16

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.05368	0.06362
Residual	0.1633	0.02717

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	5.08	0.0033

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	9.3494	0.1356	11	68.93	<.0001
ave(18,19,21,22,23,25)	9.1534	0.1255	11	72.94	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	2.25	0.0970
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	1.13	0.3114

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
8	**9.7636**	**0.3288**	**11**	**29.70**	**<.0001**	**0.05**	**9.0400**	**10.4873**	**17390**	**5717.70**	**8433.53**	**35858**
9	**9.4522**	**0.3074**	**11**	**30.75**	**<.0001**	**0.05**	**8.7756**	**10.1288**	**12736**	**3915.23**	**6474.39**	**25055**
10	**9.1013**	**0.3679**	**11**	**24.74**	**<.0001**	**0.05**	**8.2916**	**9.9109**	**8966.93**	**3298.55**	**3990.41**	**20150**
11	**9.5359**	**0.3074**	**11**	**31.02**	**<.0001**	**0.05**	**8.8593**	**10.2125**	**13847**	**4256.82**	**7039.26**	**27240**
12	**9.7257**	**0.3074**	**11**	**31.64**	**<.0001**	**0.05**	**9.0491**	**10.4023**	**16742**	**5146.57**	**8510.59**	**32934**

13	8.5180	0.3679	11	23.16	<.0001	0.05	7.7083	9.3276	5003.91	1840.73	2226.81	11244
18	9.4178	0.3074	11	30.64	<.0001	0.05	8.7412	10.0944	12306	3782.89	6255.54	24208
19	10.0204	0.3074	11	32.60	<.0001	0.05	9.3438	10.6970	22481	6910.71	11428	44223
21	9.2103	0.3074	11	29.96	<.0001	0.05	8.5337	9.8869	9999.45	3073.91	5083.15	19671
22	8.6424	0.3074	11	28.11	<.0001	0.05	7.9658	9.3190	5667.08	1742.10	2880.82	11148
23	8.7704	0.3074	11	28.53	<.0001	0.05	8.0938	9.4470	6440.69	1979.92	3274.08	12670
25	8.8590	0.3074	11	28.82	<.0001	0.05	8.1824	9.5356	7037.13	2163.27	3577.27	13843

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
8	9	0.3114	0.4501	11	0.69	0.5033	1.0000	0.05	-0.6793	1.3021	-2.3708	2.9936
8	10	0.6623	0.4934	11	1.34	0.2065	1.0000	0.05	-0.4236	1.7483	-2.2777	3.6024
8	11	0.2278	0.4501	11	0.51	0.6228	1.0000	0.05	-0.7629	1.2185	-2.4544	2.9100
8	12	0.03798	0.4501	11	0.08	0.9343	1.0000	0.05	-0.9527	1.0287	-2.6442	2.7202
8	13	1.2457	0.4934	11	2.52	0.0282	1.0000	0.05	0.1597	2.3316	-1.6944	4.1857
8	18	0.3458	0.4501	11	0.77	0.4585	1.0000	0.05	-0.6449	1.3365	-2.3364	3.0280
8	19	-0.2568	0.4501	11	-0.57	0.5798	1.0000	0.05	-1.2475	0.7339	-2.9390	2.4254
8	21	0.5534	0.4501	11	1.23	0.2446	1.0000	0.05	-0.4373	1.5441	-2.1289	3.2356
8	22	1.1212	0.4501	11	2.49	0.0300	1.0000	0.05	0.1305	2.1119	-1.5610	3.8034
8	23	0.9933	0.4501	11	2.21	0.0495	1.0000	0.05	0.002550	1.9840	-1.6890	3.6755
8	25	0.9047	0.4501	11	2.01	0.0696	1.0000	0.05	-0.08601	1.8954	-1.7775	3.5869
9	10	0.3509	0.4794	11	0.73	0.4795	1.0000	0.05	-0.7042	1.4061	-2.5058	3.2076
9	11	-0.08365	0.4347	11	-0.19	0.8509	1.0000	0.05	-1.0405	0.8732	-2.6742	2.5069
9	12	-0.2735	0.4347	11	-0.63	0.5422	1.0000	0.05	-1.2303	0.6834	-2.8640	2.3171
9	13	0.9342	0.4794	11	1.95	0.0773	1.0000	0.05	-0.1209	1.9894	-1.9224	3.7909
9	18	0.03439	0.4347	11	0.08	0.9384	1.0000	0.05	-0.9225	0.9912	-2.5562	2.6250
9	19	-0.5682	0.4347	11	-1.31	0.2179	1.0000	0.05	-1.5251	0.3887	-3.1588	2.0224
9	21	0.2419	0.4347	11	0.56	0.5890	1.0000	0.05	-0.7149	1.1988	-2.3487	2.8325
9	22	0.8098	0.4347	11	1.86	0.0894	1.0000	0.05	-0.1471	1.7666	-1.7808	3.4004
9	23	0.6818	0.4347	11	1.57	0.1451	1.0000	0.05	-0.2750	1.6387	-1.9088	3.2724
9	25	0.5933	0.4347	11	1.36	0.1996	1.0000	0.05	-0.3636	1.5501	-1.9973	3.1838
10	11	-0.4346	0.4794	11	-0.91	0.3841	1.0000	0.05	-1.4897	0.6206	-3.2912	2.4221
10	12	-0.6244	0.4794	11	-1.30	0.2194	1.0000	0.05	-1.6795	0.4308	-3.4810	2.2323
10	13	0.5833	0.5202	11	1.12	0.2860	1.0000	0.05	-0.5617	1.7283	-2.5167	3.6833
10	18	-0.3165	0.4794	11	-0.66	0.5227	1.0000	0.05	-1.3717	0.7386	-3.1732	2.5401
10	19	-0.9191	0.4794	11	-1.92	0.0815	1.0000	0.05	-1.9742	0.1360	-3.7758	1.9376
10	21	-0.1090	0.4794	11	-0.23	0.8243	1.0000	0.05	-1.1641	0.9462	-2.9657	2.7477

10	22	0.4589	0.4794	11	0.96	0.3590	1.0000	0.05	-0.5963	1.5140	-2.3978	3.3155
10	23	0.3309	0.4794	11	0.69	0.5043	1.0000	0.05	-0.7242	1.3860	-2.5258	3.1876
10	25	0.2423	0.4794	11	0.51	0.6232	1.0000	0.05	-0.8128	1.2975	-2.6143	3.0990
11	12	-0.1898	0.4347	11	-0.44	0.6708	1.0000	0.05	-1.1467	0.7670	-2.7804	2.4008
11	13	1.0179	0.4794	11	2.12	0.0572	1.0000	0.05	-0.03726	2.0730	-1.8388	3.8746
11	18	0.1180	0.4347	11	0.27	0.7910	1.0000	0.05	-0.8388	1.0749	-2.4725	2.7086
11	19	-0.4846	0.4347	11	-1.11	0.2888	1.0000	0.05	-1.4414	0.4723	-3.0751	2.1060
11	21	0.3256	0.4347	11	0.75	0.4696	1.0000	0.05	-0.6313	1.2824	-2.2650	2.9162
11	22	0.8934	0.4347	11	2.06	0.0644	1.0000	0.05	-0.06343	1.8503	-1.6972	3.4840
11	23	0.7655	0.4347	11	1.76	0.1060	1.0000	0.05	-0.1914	1.7223	-1.8251	3.3560
11	25	0.6769	0.4347	11	1.56	0.1478	1.0000	0.05	-0.2800	1.6338	-1.9137	3.2675
12	13	1.2077	0.4794	11	2.52	0.0285	1.0000	0.05	0.1526	2.2628	-1.6490	4.0644
12	18	0.3078	0.4347	11	0.71	0.4936	1.0000	0.05	-0.6490	1.2647	-2.2827	2.8984
12	19	-0.2947	0.4347	11	-0.68	0.5118	1.0000	0.05	-1.2516	0.6621	-2.8853	2.2958
12	21	0.5154	0.4347	11	1.19	0.2608	1.0000	0.05	-0.4415	1.4722	-2.0752	3.1060
12	22	1.0832	0.4347	11	2.49	0.0299	1.0000	0.05	0.1264	2.0401	-1.5073	3.6738
12	23	0.9553	0.4347	11	2.20	0.0503	1.0000	0.05	-0.00158	1.9121	-1.6353	3.5459
12	25	0.8667	0.4347	11	1.99	0.0716	1.0000	0.05	-0.09015	1.8236	-1.7239	3.4573
13	18	-0.8998	0.4794	11	-1.88	0.0873	1.0000	0.05	-1.9550	0.1553	-3.7565	1.9568
13	19	-1.5024	0.4794	11	-3.13	0.0095	1.0000	0.05	-2.5576	-0.4473	-4.3591	1.3542
13	21	-0.6923	0.4794	11	-1.44	0.1766	1.0000	0.05	-1.7475	0.3628	-3.5490	2.1644
13	22	-0.1245	0.4794	11	-0.26	0.8000	1.0000	0.05	-1.1796	0.9307	-2.9811	2.7322
13	23	-0.2524	0.4794	11	-0.53	0.6090	1.0000	0.05	-1.3076	0.8027	-3.1091	2.6043
13	25	-0.3410	0.4794	11	-0.71	0.4917	1.0000	0.05	-1.3961	0.7142	-3.1977	2.5157
18	19	-0.6026	0.4347	11	-1.39	0.1932	1.0000	0.05	-1.5594	0.3543	-3.1932	1.9880
18	21	0.2075	0.4347	11	0.48	0.6424	1.0000	0.05	-0.7493	1.1644	-2.3830	2.7981
18	22	0.7754	0.4347	11	1.78	0.1021	1.0000	0.05	-0.1815	1.7323	-1.8152	3.3660
18	23	0.6474	0.4347	11	1.49	0.1645	1.0000	0.05	-0.3094	1.6043	-1.9431	3.2380
18	25	0.5589	0.4347	11	1.29	0.2250	1.0000	0.05	-0.3980	1.5157	-2.0317	3.1494
19	21	0.8101	0.4347	11	1.86	0.0893	1.0000	0.05	-0.1467	1.7670	-1.7805	3.4007
19	22	1.3780	0.4347	11	3.17	0.0089	1.0000	0.05	0.4211	2.3348	-1.2126	3.9686
19	23	1.2500	0.4347	11	2.88	0.0151	1.0000	0.05	0.2932	2.2069	-1.3406	3.8406
19	25	1.1615	0.4347	11	2.67	0.0217	1.0000	0.05	0.2046	2.1183	-1.4291	3.7520
21	22	0.5679	0.4347	11	1.31	0.2181	1.0000	0.05	-0.3890	1.5247	-2.0227	3.1584
21	23	0.4399	0.4347	11	1.01	0.3333	1.0000	0.05	-0.5170	1.3968	-2.1507	3.0305
21	25	0.3513	0.4347	11	0.81	0.4361	1.0000	0.05	-0.6055	1.3082	-2.2393	2.9419
22	23	-0.1280	0.4347	11	-0.29	0.7740	1.0000	0.05	-1.0848	0.8289	-2.7185	2.4626
22	25	-0.2165	0.4347	11	-0.50	0.6283	1.0000	0.05	-1.1734	0.7403	-2.8071	2.3741

23	**25**	**-0.08856**	**0.4347**	**11**	**-0.20**	**0.8423**	**1.0000**	**0.05**	**-1.0454**	**0.8683**	**-2.6791**	**2.5020**

Mixed run for Question 2
Average Total Speed

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ATS
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0

Optimization Information

Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**4**	-103.8324153	1.08294662	1.179E-8
1	**0**	**2**	-104.5203511	0.01650900	5.519E-6
2	**0**	**1**	-104.5215046	0.00107943	1.467E-6
3	**0**	**1**	-104.5200205	0.00021432	5.784E-8
4	**0**	**1**	-104.5202598	0.00003345	1.497E-9
5	**0**	**1**	-104.5202164	0.00000610	2.338E-9
6	**0**	**0**	-104.5202238	0.00000038	2.508E-6
7	**0**	**0**	-104.520223	0.00000003	2.196E-6
8	**0**	**0**	-104.520223	0.00000000	2.223E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-104.52
Generalized Chi-Square	0.70
Gener. Chi-Square / DF	0.01

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.009230	0.007635
Residual	0.008731	0.001509

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.72	0.1704

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	1.8986	0.04521	11	42.00	<.0001
ave(18,19,21,22,23,25)	1.7346	0.04361	11	39.77	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	1.44	0.2780

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	6.82	0.0242

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
8	1.7506	0.1102	11	15.89	<.0001	0.05	1.5081	1.9932	5.7583	0.6345	4.5183	7.3386
9	1.8357	0.1068	11	17.18	<.0001	0.05	1.6006	2.0708	6.2695	0.6698	4.9559	7.9314
10	1.8586	0.1166	11	15.94	<.0001	0.05	1.6019	2.1152	6.4146	0.7479	4.9627	8.2913
11	1.9410	0.1068	11	18.17	<.0001	0.05	1.7058	2.1761	6.9654	0.7441	5.5059	8.8117
12	1.9519	0.1068	11	18.27	<.0001	0.05	1.7168	2.1870	7.0420	0.7523	5.5665	8.9087
13	2.0538	0.1166	11	17.61	<.0001	0.05	1.7972	2.3104	7.7975	0.9092	6.0325	10.0787
18	1.6018	0.1068	11	14.99	<.0001	0.05	1.3667	1.8369	4.9619	0.5301	3.9222	6.2771
19	1.7233	0.1068	11	16.13	<.0001	0.05	1.4882	1.9584	5.6031	0.5986	4.4291	7.0883
21	1.6762	0.1068	11	15.69	<.0001	0.05	1.4411	1.9113	5.3451	0.5710	4.2251	6.7619
22	1.8513	0.1068	11	17.33	<.0001	0.05	1.6161	2.0864	6.3679	0.6803	5.0336	8.0558
23	1.6907	0.1068	11	15.83	<.0001	0.05	1.4556	1.9258	5.4232	0.5794	4.2869	6.8608
25	1.8644	0.1068	11	17.45	<.0001	0.05	1.6293	2.0995	6.4522	0.6893	5.1003	8.1625

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
8	9	-0.08506	0.1535	11	-0.55	0.5905	1.0000	0.05	-0.4228	0.2527	-0.9996	0.8294
8	10	-0.1079	0.1604	11	-0.67	0.5150	1.0000	0.05	-0.4610	0.2452	-1.0639	0.8480
8	11	-0.1903	0.1535	11	-1.24	0.2407	1.0000	0.05	-0.5281	0.1475	-1.1048	0.7242
8	12	-0.2013	0.1535	11	-1.31	0.2164	1.0000	0.05	-0.5390	0.1365	-1.1158	0.7133
8	13	-0.3032	0.1604	11	-1.89	0.0854	1.0000	0.05	-0.6562	0.04993	-1.2591	0.6528
8	18	0.1489	0.1535	11	0.97	0.3529	1.0000	0.05	-0.1889	0.4866	-0.7656	1.0634
8	19	0.02732	0.1535	11	0.18	0.8619	1.0000	0.05	-0.3105	0.3651	-0.8872	0.9418
8	21	0.07446	0.1535	11	0.49	0.6371	1.0000	0.05	-0.2633	0.4122	-0.8400	0.9890
8	22	-0.1006	0.1535	11	-0.66	0.5255	1.0000	0.05	-0.4384	0.2372	-1.0151	0.8139
8	23	0.05995	0.1535	11	0.39	0.7035	1.0000	0.05	-0.2778	0.3977	-0.8545	0.9745
8	25	-0.1138	0.1535	11	-0.74	0.4740	1.0000	0.05	-0.4516	0.2240	-1.0283	0.8007
9	10	-0.02287	0.1581	11	-0.14	0.8876	1.0000	0.05	-0.3709	0.3252	-0.9652	0.9195
9	11	-0.1053	0.1511	11	-0.70	0.5005	1.0000	0.05	-0.4378	0.2273	-1.0055	0.7950
9	12	-0.1162	0.1511	11	-0.77	0.4580	1.0000	0.05	-0.4487	0.2163	-1.0165	0.7841
9	13	-0.2181	0.1581	11	-1.38	0.1952	1.0000	0.05	-0.5662	0.1300	-1.1604	0.7242
9	18	0.2339	0.1511	11	1.55	0.1498	1.0000	0.05	-0.09860	0.5664	-0.6663	1.1342

9	19	0.1124	0.1511	11	0.74	0.4725	1.0000	0.05	-0.2201	0.4449	-0.7879	1.0126
9	21	0.1595	0.1511	11	1.06	0.3137	1.0000	0.05	-0.1730	0.4920	-0.7407	1.0598
9	22	-0.01556	0.1511	11	-0.10	0.9198	1.0000	0.05	-0.3481	0.3170	-0.9158	0.8847
9	23	0.1450	0.1511	11	0.96	0.3578	1.0000	0.05	-0.1875	0.4775	-0.7553	1.0453
9	25	-0.02872	0.1511	11	-0.19	0.8527	1.0000	0.05	-0.3612	0.3038	-0.9290	0.8715
10	11	-0.08238	0.1581	11	-0.52	0.6127	1.0000	0.05	-0.4304	0.2657	-1.0247	0.8599
10	12	-0.09332	0.1581	11	-0.59	0.5670	1.0000	0.05	-0.4414	0.2547	-1.0357	0.8490
10	13	-0.1952	0.1649	11	-1.18	0.2614	1.0000	0.05	-0.5582	0.1677	-1.1778	0.7874
10	18	0.2568	0.1581	11	1.62	0.1327	1.0000	0.05	-0.09127	0.6048	-0.6855	1.1991
10	19	0.1353	0.1581	11	0.86	0.4106	1.0000	0.05	-0.2128	0.4833	-0.8071	1.0776
10	21	0.1824	0.1581	11	1.15	0.2732	1.0000	0.05	-0.1657	0.5305	-0.7599	1.1247
10	22	0.007305	0.1581	11	0.05	0.9640	1.0000	0.05	-0.3408	0.3554	-0.9350	0.9496
10	23	0.1679	0.1581	11	1.06	0.3112	1.0000	0.05	-0.1802	0.5159	-0.7744	1.1102
10	25	-0.00585	0.1581	11	-0.04	0.9712	1.0000	0.05	-0.3539	0.3422	-0.9482	0.9365
11	12	-0.01094	0.1511	11	-0.07	0.9436	1.0000	0.05	-0.3435	0.3216	-0.9112	0.8893
11	13	-0.1128	0.1581	11	-0.71	0.4904	1.0000	0.05	-0.4609	0.2352	-1.0552	0.8295
11	18	0.3392	0.1511	11	2.25	0.0463	1.0000	0.05	0.006652	0.6717	-0.5611	1.2394
11	19	0.2176	0.1511	11	1.44	0.1776	1.0000	0.05	-0.1149	0.5502	-0.6826	1.1179
11	21	0.2648	0.1511	11	1.75	0.1075	1.0000	0.05	-0.06775	0.5973	-0.6355	1.1650
11	22	0.08969	0.1511	11	0.59	0.5647	1.0000	0.05	-0.2428	0.4222	-0.8106	0.9900
11	23	0.2503	0.1511	11	1.66	0.1258	1.0000	0.05	-0.08226	0.5828	-0.6500	1.1505
11	25	0.07654	0.1511	11	0.51	0.6224	1.0000	0.05	-0.2560	0.4091	-0.8237	0.9768
12	13	-0.1019	0.1581	11	-0.64	0.5325	1.0000	0.05	-0.4500	0.2462	-1.0442	0.8404
12	18	0.3501	0.1511	11	2.32	0.0408	1.0000	0.05	0.01759	0.6826	-0.5502	1.2504
12	19	0.2286	0.1511	11	1.51	0.1585	1.0000	0.05	-0.1039	0.5611	-0.6717	1.1288
12	21	0.2757	0.1511	11	1.82	0.0953	1.0000	0.05	-0.05681	0.6082	-0.6246	1.1760
12	22	0.1006	0.1511	11	0.67	0.5191	1.0000	0.05	-0.2319	0.4332	-0.7996	1.0009
12	23	0.2612	0.1511	11	1.73	0.1117	1.0000	0.05	-0.07132	0.5937	-0.6391	1.1615
12	25	0.08747	0.1511	11	0.58	0.5743	1.0000	0.05	-0.2450	0.4200	-0.8128	0.9877
13	18	0.4520	0.1581	11	2.86	0.0156	1.0000	0.05	0.1040	0.8001	-0.4903	1.3943
13	19	0.3305	0.1581	11	2.09	0.0607	1.0000	0.05	-0.01758	0.6785	-0.6119	1.2728
13	21	0.3776	0.1581	11	2.39	0.0360	1.0000	0.05	0.02956	0.7257	-0.5647	1.3199
13	22	0.2025	0.1581	11	1.28	0.2266	1.0000	0.05	-0.1455	0.5506	-0.7398	1.1449
13	23	0.3631	0.1581	11	2.30	0.0423	1.0000	0.05	0.01505	0.7112	-0.5792	1.3054
13	25	0.1894	0.1581	11	1.20	0.2563	1.0000	0.05	-0.1587	0.5374	-0.7530	1.1317
18	19	-0.1215	0.1511	11	-0.80	0.4382	1.0000	0.05	-0.4541	0.2110	-1.0218	0.7787
18	21	-0.07440	0.1511	11	-0.49	0.6321	1.0000	0.05	-0.4069	0.2581	-0.9747	0.8259
18	22	-0.2495	0.1511	11	-1.65	0.1269	1.0000	0.05	-0.5820	0.08304	-1.1498	0.6508

18	**23**	**-0.08891**	**0.1511**	**11**	**-0.59**	**0.5681**	**1.0000**	**0.05**	**-0.4214**	**0.2436**	**-0.9892**	**0.8114**
18	**25**	**-0.2626**	**0.1511**	**11**	**-1.74**	**0.1100**	**1.0000**	**0.05**	**-0.5952**	**0.06988**	**-1.1629**	**0.6376**
19	**21**	**0.04714**	**0.1511**	**11**	**0.31**	**0.7609**	**1.0000**	**0.05**	**-0.2854**	**0.3797**	**-0.8531**	**0.9474**
19	**22**	**-0.1279**	**0.1511**	**11**	**-0.85**	**0.4151**	**1.0000**	**0.05**	**-0.4605**	**0.2046**	**-1.0282**	**0.7723**
19	**23**	**0.03263**	**0.1511**	**11**	**0.22**	**0.8330**	**1.0000**	**0.05**	**-0.2999**	**0.3652**	**-0.8676**	**0.9329**
19	**25**	**-0.1411**	**0.1511**	**11**	**-0.93**	**0.3704**	**1.0000**	**0.05**	**-0.4736**	**0.1914**	**-1.0414**	**0.7592**
21	**22**	**-0.1751**	**0.1511**	**11**	**-1.16**	**0.2710**	**1.0000**	**0.05**	**-0.5076**	**0.1574**	**-1.0754**	**0.7252**
21	**23**	**-0.01451**	**0.1511**	**11**	**-0.10**	**0.9252**	**1.0000**	**0.05**	**-0.3470**	**0.3180**	**-0.9148**	**0.8858**
21	**25**	**-0.1882**	**0.1511**	**11**	**-1.25**	**0.2387**	**1.0000**	**0.05**	**-0.5208**	**0.1443**	**-1.0885**	**0.7120**
22	**23**	**0.1606**	**0.1511**	**11**	**1.06**	**0.3106**	**1.0000**	**0.05**	**-0.1719**	**0.4931**	**-0.7397**	**1.0608**
22	**25**	**-0.01315**	**0.1511**	**11**	**-0.09**	**0.9322**	**1.0000**	**0.05**	**-0.3457**	**0.3194**	**-0.9134**	**0.8871**
23	**25**	**-0.1737**	**0.1511**	**11**	**-1.15**	**0.2746**	**1.0000**	**0.05**	**-0.5063**	**0.1588**	**-1.0740**	**0.7265**

Mixed run for Question 2
Average Speed off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ASOR
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**0**	-70.45807526	0.30874832	4.054739
1	**0**	**0**	-70.20092723	0.00200571	3.941964
2	**0**	**0**	-70.19701791	0.00000006	3.94196
3	**0**	**0**	-70.19701781	0.00000000	3.94196

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-70.20
Generalized Chi-Square	1.21
Gener. Chi-Square / DF	0.02

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Residual	0.01516	0.002397

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	6.08	0.0015

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(8,9,10,11,12,13)	1.1826	0.02962	11	39.93	<.0001
ave(18,19,21,22,23,25)	1.1333	0.02513	11	45.09	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	11	11	0.89	0.5743
ave(8,9,10,11,12,13) vs ave(18,19,21,22,23,25)	1	11	1.61	0.2311

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
8	1.1994	0.07109	11	16.87	<.0001	0.05	1.0430	1.3559	3.3182	0.2359	2.8376	3.8802
9	1.1438	0.06156	11	18.58	<.0001	0.05	1.0083	1.2793	3.1388	0.1932	2.7410	3.5942
10	1.3016	0.08706	11	14.95	<.0001	0.05	1.1100	1.4932	3.6753	0.3200	3.0344	4.4515
11	1.1522	0.06156	11	18.72	<.0001	0.05	1.0167	1.2877	3.1650	0.1948	2.7639	3.6243
12	1.2268	0.06156	11	19.93	<.0001	0.05	1.0913	1.3623	3.4102	0.2099	2.9781	3.9050
13	1.0716	0.08706	11	12.31	<.0001	0.05	0.8800	1.2632	2.9200	0.2542	2.4108	3.5368
18	1.0811	0.06156	11	17.56	<.0001	0.05	0.9456	1.2166	2.9480	0.1815	2.5744	3.3757
19	1.1624	0.06156	11	18.88	<.0001	0.05	1.0269	1.2979	3.1976	0.1969	2.7924	3.6616
21	1.1131	0.06156	11	18.08	<.0001	0.05	0.9776	1.2486	3.0438	0.1874	2.6581	3.4855
22	1.0801	0.06156	11	17.54	<.0001	0.05	0.9446	1.2156	2.9449	0.1813	2.5718	3.3723
23	1.2121	0.06156	11	19.69	<.0001	0.05	1.0766	1.3476	3.3604	0.2069	2.9346	3.8480
25	1.1512	0.06156	11	18.70	<.0001	0.05	1.0157	1.2867	3.1619	0.1947	2.7612	3.6207

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
8	9	0.05559	0.09404	11	0.59	0.5664	1.0000	0.05	-0.1514	0.2626	-0.5048	0.6160
8	10	-0.1022	0.1124	11	-0.91	0.3827	1.0000	0.05	-0.3496	0.1452	-0.7720	0.5676
8	11	0.04727	0.09404	11	0.50	0.6251	1.0000	0.05	-0.1597	0.2542	-0.5131	0.6076

8	12	-0.02735	0.09404	11	-0.29	0.7766	1.0000	0.05	-0.2343	0.1796	-0.5877	0.5330
8	13	0.1278	0.1124	11	1.14	0.2796	1.0000	0.05	-0.1196	0.3752	-0.5419	0.7976
8	18	0.1183	0.09404	11	1.26	0.2344	1.0000	0.05	-0.08867	0.3253	-0.4421	0.6787
8	19	0.03703	0.09404	11	0.39	0.7013	1.0000	0.05	-0.1699	0.2440	-0.5233	0.5974
8	21	0.08632	0.09404	11	0.92	0.3783	1.0000	0.05	-0.1207	0.2933	-0.4740	0.6467
8	22	0.1193	0.09404	11	1.27	0.2306	1.0000	0.05	-0.08764	0.3263	-0.4410	0.6797
8	23	-0.01263	0.09404	11	-0.13	0.8956	1.0000	0.05	-0.2196	0.1943	-0.5730	0.5477
8	25	0.04826	0.09404	11	0.51	0.6180	1.0000	0.05	-0.1587	0.2552	-0.5121	0.6086
9	10	-0.1578	0.1066	11	-1.48	0.1670	1.0000	0.05	-0.3925	0.07690	-0.7932	0.4776
9	11	-0.00832	0.08706	11	-0.10	0.9255	1.0000	0.05	-0.1999	0.1833	-0.5271	0.5105
9	12	-0.08294	0.08706	11	-0.95	0.3612	1.0000	0.05	-0.2746	0.1087	-0.6017	0.4359
9	13	0.07223	0.1066	11	0.68	0.5121	1.0000	0.05	-0.1625	0.3069	-0.5632	0.7076
9	18	0.06271	0.08706	11	0.72	0.4864	1.0000	0.05	-0.1289	0.2543	-0.4561	0.5815
9	19	-0.01856	0.08706	11	-0.21	0.8351	1.0000	0.05	-0.2102	0.1731	-0.5374	0.5002
9	21	0.03073	0.08706	11	0.35	0.7308	1.0000	0.05	-0.1609	0.2224	-0.4881	0.5495
9	22	0.06374	0.08706	11	0.73	0.4794	1.0000	0.05	-0.1279	0.2554	-0.4551	0.5825
9	23	-0.06822	0.08706	11	-0.78	0.4498	1.0000	0.05	-0.2598	0.1234	-0.5870	0.4506
9	25	-0.00733	0.08706	11	-0.08	0.9344	1.0000	0.05	-0.1990	0.1843	-0.5261	0.5115
10	11	0.1495	0.1066	11	1.40	0.1886	1.0000	0.05	-0.08522	0.3842	-0.4859	0.7849
10	12	0.07486	0.1066	11	0.70	0.4973	1.0000	0.05	-0.1598	0.3095	-0.5605	0.7103
10	13	0.2300	0.1231	11	1.87	0.0886	1.0000	0.05	-0.04097	0.5010	-0.5037	0.9637
10	18	0.2205	0.1066	11	2.07	0.0630	1.0000	0.05	-0.01418	0.4552	-0.4149	0.8559
10	19	0.1392	0.1066	11	1.31	0.2183	1.0000	0.05	-0.09546	0.3739	-0.4962	0.7746
10	21	0.1885	0.1066	11	1.77	0.1047	1.0000	0.05	-0.04617	0.4232	-0.4469	0.8239
10	22	0.2215	0.1066	11	2.08	0.0620	1.0000	0.05	-0.01316	0.4562	-0.4139	0.8569
10	23	0.08957	0.1066	11	0.84	0.4188	1.0000	0.05	-0.1451	0.3243	-0.5458	0.7250
10	25	0.1505	0.1066	11	1.41	0.1859	1.0000	0.05	-0.08423	0.3852	-0.4849	0.7859
11	12	-0.07461	0.08706	11	-0.86	0.4097	1.0000	0.05	-0.2662	0.1170	-0.5934	0.4442
11	13	0.08056	0.1066	11	0.76	0.4658	1.0000	0.05	-0.1541	0.3152	-0.5548	0.7160
11	18	0.07104	0.08706	11	0.82	0.4319	1.0000	0.05	-0.1206	0.2627	-0.4478	0.5898
11	19	-0.01024	0.08706	11	-0.12	0.9085	1.0000	0.05	-0.2019	0.1814	-0.5290	0.5086
11	21	0.03906	0.08706	11	0.45	0.6624	1.0000	0.05	-0.1526	0.2307	-0.4797	0.5579
11	22	0.07207	0.08706	11	0.83	0.4254	1.0000	0.05	-0.1196	0.2637	-0.4467	0.5909
11	23	-0.05990	0.08706	11	-0.69	0.5057	1.0000	0.05	-0.2515	0.1317	-0.5787	0.4589
11	25	0.000994	0.08706	11	0.01	0.9911	1.0000	0.05	-0.1906	0.1926	-0.5178	0.5198
12	13	0.1552	0.1066	11	1.46	0.1735	1.0000	0.05	-0.07952	0.3899	-0.4802	0.7906
12	18	0.1456	0.08706	11	1.67	0.1225	1.0000	0.05	-0.04597	0.3373	-0.3732	0.6645
12	19	0.06438	0.08706	11	0.74	0.4751	1.0000	0.05	-0.1272	0.2560	-0.4544	0.5832

12	**21**	**0.1137**	**0.08706**	**11**	**1.31**	**0.2183**	**1.0000**	**0.05**	**-0.07796**	**0.3053**	**-0.4051**	**0.6325**
12	**22**	**0.1467**	**0.08706**	**11**	**1.68**	**0.1202**	**1.0000**	**0.05**	**-0.04495**	**0.3383**	**-0.3721**	**0.6655**
12	**23**	**0.01471**	**0.08706**	**11**	**0.17**	**0.8689**	**1.0000**	**0.05**	**-0.1769**	**0.2063**	**-0.5041**	**0.5335**
12	**25**	**0.07561**	**0.08706**	**11**	**0.87**	**0.4037**	**1.0000**	**0.05**	**-0.1160**	**0.2672**	**-0.4432**	**0.5944**
13	**18**	**-0.00952**	**0.1066**	**11**	**-0.09**	**0.9305**	**1.0000**	**0.05**	**-0.2442**	**0.2252**	**-0.6449**	**0.6259**
13	**19**	**-0.09079**	**0.1066**	**11**	**-0.85**	**0.4127**	**1.0000**	**0.05**	**-0.3255**	**0.1439**	**-0.7262**	**0.5446**
13	**21**	**-0.04150**	**0.1066**	**11**	**-0.39**	**0.7045**	**1.0000**	**0.05**	**-0.2762**	**0.1932**	**-0.6769**	**0.5939**
13	**22**	**-0.00849**	**0.1066**	**11**	**-0.08**	**0.9379**	**1.0000**	**0.05**	**-0.2432**	**0.2262**	**-0.6439**	**0.6269**
13	**23**	**-0.1405**	**0.1066**	**11**	**-1.32**	**0.2145**	**1.0000**	**0.05**	**-0.3751**	**0.09423**	**-0.7759**	**0.4949**
13	**25**	**-0.07956**	**0.1066**	**11**	**-0.75**	**0.4712**	**1.0000**	**0.05**	**-0.3143**	**0.1551**	**-0.7150**	**0.5558**
18	**19**	**-0.08127**	**0.08706**	**11**	**-0.93**	**0.3706**	**1.0000**	**0.05**	**-0.2729**	**0.1104**	**-0.6001**	**0.4375**
18	**21**	**-0.03198**	**0.08706**	**11**	**-0.37**	**0.7203**	**1.0000**	**0.05**	**-0.2236**	**0.1596**	**-0.5508**	**0.4868**
18	**22**	**0.001029**	**0.08706**	**11**	**0.01**	**0.9908**	**1.0000**	**0.05**	**-0.1906**	**0.1927**	**-0.5178**	**0.5198**
18	**23**	**-0.1309**	**0.08706**	**11**	**-1.50**	**0.1608**	**1.0000**	**0.05**	**-0.3226**	**0.06069**	**-0.6497**	**0.3879**
18	**25**	**-0.07004**	**0.08706**	**11**	**-0.80**	**0.4381**	**1.0000**	**0.05**	**-0.2617**	**0.1216**	**-0.5888**	**0.4488**
19	**21**	**0.04929**	**0.08706**	**11**	**0.57**	**0.5827**	**1.0000**	**0.05**	**-0.1423**	**0.2409**	**-0.4695**	**0.5681**
19	**22**	**0.08230**	**0.08706**	**11**	**0.95**	**0.3648**	**1.0000**	**0.05**	**-0.1093**	**0.2739**	**-0.4365**	**0.6011**
19	**23**	**-0.04966**	**0.08706**	**11**	**-0.57**	**0.5798**	**1.0000**	**0.05**	**-0.2413**	**0.1420**	**-0.5685**	**0.4691**
19	**25**	**0.01123**	**0.08706**	**11**	**0.13**	**0.8997**	**1.0000**	**0.05**	**-0.1804**	**0.2029**	**-0.5076**	**0.5300**
21	**22**	**0.03301**	**0.08706**	**11**	**0.38**	**0.7118**	**1.0000**	**0.05**	**-0.1586**	**0.2246**	**-0.4858**	**0.5518**
21	**23**	**-0.09895**	**0.08706**	**11**	**-1.14**	**0.2799**	**1.0000**	**0.05**	**-0.2906**	**0.09267**	**-0.6178**	**0.4198**
21	**25**	**-0.03806**	**0.08706**	**11**	**-0.44**	**0.6704**	**1.0000**	**0.05**	**-0.2297**	**0.1536**	**-0.5569**	**0.4807**
22	**23**	**-0.1320**	**0.08706**	**11**	**-1.52**	**0.1578**	**1.0000**	**0.05**	**-0.3236**	**0.05966**	**-0.6508**	**0.3868**
22	**25**	**-0.07107**	**0.08706**	**11**	**-0.82**	**0.4316**	**1.0000**	**0.05**	**-0.2627**	**0.1206**	**-0.5899**	**0.4477**
23	**25**	**0.06089**	**0.08706**	**11**	**0.70**	**0.4988**	**1.0000**	**0.05**	**-0.1307**	**0.2525**	**-0.4579**	**0.5797**

Mixed run for Question 3
%of Training Time Spent Moving

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctTTMove
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	110.55116681	2.00000000	45.47742
1	**0**	**5**	124.48949849	2.00000000	43.28187
2	**0**	**3**	126.00411064	0.01551018	42.9832
3	**0**	**1**	126.02838748	0.00024664	42.97501
4	**0**	**1**	126.02839857	0.00003664	42.9754
5	**0**	**0**	126.02839857	0.00000000	42.9754

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	126.03
Generalized Chi-Square	80.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Scale	102.35	16.3405

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	2.39	0.0632

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	-2.4221	0.1475	11	-16.43	<.0001
ave(26,27,29,30,31,33)	-2.9858	0.09910	11	-30.13	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	2.25	0.1065
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	10.07	0.0089

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
14	-2.6258	0.1960	11	-13.39	<.0001	0.05	-3.0573	-2.1943	0.06750	0.01234	0.04490	0.1003
15	-2.2107	0.1648	11	-13.41	<.0001	0.05	-2.5735	-1.8479	0.09880	0.01468	0.07087	0.1361
16	-2.4298	0.3607	11	-6.74	<.0001	0.05	-3.2236	-1.6359	0.08093	0.02683	0.03829	0.1630
26	-3.0742	0.2764	11	-11.12	<.0001	0.05	-3.6825	-2.4659	0.04418	0.01167	0.02454	0.07828
27	-2.9010	0.2213	11	-13.11	<.0001	0.05	-3.3880	-2.4139	0.05211	0.01093	0.03267	0.08212
29	-3.0555	0.2373	11	-12.88	<.0001	0.05	-3.5778	-2.5332	0.04498	0.01019	0.02718	0.07356
30	-2.9085	0.2564	11	-11.34	<.0001	0.05	-3.4729	-2.3442	0.05173	0.01258	0.03009	0.08753
31	-2.9254	0.2238	11	-13.07	<.0001	0.05	-3.4179	-2.4330	0.05091	0.01081	0.03174	0.08069
33	-3.0503	0.2367	11	-12.88	<.0001	0.05	-3.5713	-2.5292	0.04521	0.01022	0.02735	0.07384

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
14	15	-0.4151	0.2561	11	-1.62	0.1334	1.0000	0.05	-0.9789	0.1486	-1.9414	1.1111
14	16	-0.1960	0.4105	11	-0.48	0.6424	1.0000	0.05	-1.0995	0.7075	-2.6423	2.2502
14	26	0.4484	0.3388	11	1.32	0.2126	1.0000	0.05	-0.2974	1.1942	-1.5707	2.4675
14	27	0.2752	0.2957	11	0.93	0.3720	1.0000	0.05	-0.3756	0.9259	-1.4866	2.0369
14	29	0.4297	0.3078	11	1.40	0.1902	1.0000	0.05	-0.2478	1.1072	-1.4045	2.2639

14	**30**	**0.2827**	**0.3228**	**11**	**0.88**	**0.3998**	**1.0000**	**0.05**	**-0.4277**	**0.9932**	**-1.6406**	**2.2061**
14	**31**	**0.2996**	**0.2975**	**11**	**1.01**	**0.3355**	**1.0000**	**0.05**	**-0.3551**	**0.9544**	**-1.4731**	**2.0723**
14	**33**	**0.4245**	**0.3074**	**11**	**1.38**	**0.1947**	**1.0000**	**0.05**	**-0.2520**	**1.1010**	**-1.4071**	**2.2561**
15	**16**	**0.2191**	**0.3966**	**11**	**0.55**	**0.5916**	**1.0000**	**0.05**	**-0.6537**	**1.0920**	**-2.1439**	**2.5822**
15	**26**	**0.8635**	**0.3218**	**11**	**2.68**	**0.0213**	**1.0000**	**0.05**	**0.1553**	**1.5718**	**-1.0539**	**2.7810**
15	**27**	**0.6903**	**0.2759**	**11**	**2.50**	**0.0294**	**1.0000**	**0.05**	**0.08294**	**1.2976**	**-0.9540**	**2.3346**
15	**29**	**0.8448**	**0.2889**	**11**	**2.92**	**0.0138**	**1.0000**	**0.05**	**0.2089**	**1.4808**	**-0.8769**	**2.5666**
15	**30**	**0.6979**	**0.3048**	**11**	**2.29**	**0.0428**	**1.0000**	**0.05**	**0.02697**	**1.3688**	**-1.1185**	**2.5143**
15	**31**	**0.7148**	**0.2779**	**11**	**2.57**	**0.0260**	**1.0000**	**0.05**	**0.1031**	**1.3265**	**-0.9413**	**2.3708**
15	**33**	**0.8396**	**0.2885**	**11**	**2.91**	**0.0142**	**1.0000**	**0.05**	**0.2047**	**1.4745**	**-0.8794**	**2.5586**
16	**26**	**0.6444**	**0.4544**	**11**	**1.42**	**0.1838**	**1.0000**	**0.05**	**-0.3557**	**1.6445**	**-2.0632**	**3.3520**
16	**27**	**0.4712**	**0.4232**	**11**	**1.11**	**0.2893**	**1.0000**	**0.05**	**-0.4602**	**1.4025**	**-2.0504**	**2.9928**
16	**29**	**0.6257**	**0.4317**	**11**	**1.45**	**0.1752**	**1.0000**	**0.05**	**-0.3246**	**1.5760**	**-1.9470**	**3.1984**
16	**30**	**0.4788**	**0.4425**	**11**	**1.08**	**0.3025**	**1.0000**	**0.05**	**-0.4953**	**1.4528**	**-2.1583**	**3.1158**
16	**31**	**0.4956**	**0.4244**	**11**	**1.17**	**0.2676**	**1.0000**	**0.05**	**-0.4386**	**1.4299**	**-2.0336**	**3.0249**
16	**33**	**0.6205**	**0.4314**	**11**	**1.44**	**0.1782**	**1.0000**	**0.05**	**-0.3291**	**1.5701**	**-1.9504**	**3.1914**
26	**27**	**-0.1732**	**0.3540**	**11**	**-0.49**	**0.6342**	**1.0000**	**0.05**	**-0.9525**	**0.6060**	**-2.2830**	**1.9365**
26	**29**	**-0.01870**	**0.3643**	**11**	**-0.05**	**0.9600**	**1.0000**	**0.05**	**-0.8204**	**0.7830**	**-2.1893**	**2.1519**
26	**30**	**-0.1657**	**0.3770**	**11**	**-0.44**	**0.6689**	**1.0000**	**0.05**	**-0.9954**	**0.6641**	**-2.4121**	**2.0808**
26	**31**	**-0.1488**	**0.3556**	**11**	**-0.42**	**0.6837**	**1.0000**	**0.05**	**-0.9314**	**0.6339**	**-2.2676**	**1.9701**
26	**33**	**-0.02392**	**0.3639**	**11**	**-0.07**	**0.9488**	**1.0000**	**0.05**	**-0.8248**	**0.7770**	**-2.1923**	**2.1445**
27	**29**	**0.1545**	**0.3245**	**11**	**0.48**	**0.6432**	**1.0000**	**0.05**	**-0.5596**	**0.8687**	**-1.7790**	**2.0881**
27	**30**	**0.007591**	**0.3387**	**11**	**0.02**	**0.9825**	**1.0000**	**0.05**	**-0.7379**	**0.7531**	**-2.0108**	**2.0259**
27	**31**	**0.02449**	**0.3147**	**11**	**0.08**	**0.9394**	**1.0000**	**0.05**	**-0.6682**	**0.7172**	**-1.8508**	**1.8998**
27	**33**	**0.1493**	**0.3241**	**11**	**0.46**	**0.6539**	**1.0000**	**0.05**	**-0.5640**	**0.8626**	**-1.7818**	**2.0804**
29	**30**	**-0.1470**	**0.3494**	**11**	**-0.42**	**0.6821**	**1.0000**	**0.05**	**-0.9159**	**0.6220**	**-2.2288**	**1.9349**
29	**31**	**-0.1301**	**0.3262**	**11**	**-0.40**	**0.6977**	**1.0000**	**0.05**	**-0.8479**	**0.5878**	**-2.0736**	**1.8135**
29	**33**	**-0.00522**	**0.3352**	**11**	**-0.02**	**0.9879**	**1.0000**	**0.05**	**-0.7430**	**0.7325**	**-2.0026**	**1.9922**
30	**31**	**0.01690**	**0.3403**	**11**	**0.05**	**0.9613**	**1.0000**	**0.05**	**-0.7321**	**0.7659**	**-2.0110**	**2.0448**
30	**33**	**0.1417**	**0.3490**	**11**	**0.41**	**0.6924**	**1.0000**	**0.05**	**-0.6264**	**0.9099**	**-1.9379**	**2.2213**
31	**33**	**0.1248**	**0.3257**	**11**	**0.38**	**0.7088**	**1.0000**	**0.05**	**-0.5921**	**0.8418**	**-1.8163**	**2.0659**

Mixed run for Question 3
%of Moving Time Spent off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctMovOff
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read 113

Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**8**	66.208084517	0.32842052	0.000011
1	**0**	**5**	68.868503978	0.02237429	0.001261
2	**0**	**3**	68.903908489	0.00080354	1.663E-6
3	**0**	**1**	68.903715747	0.00001781	5.954E-7
4	**0**	**0**	68.903712171	0.00000000	9.85E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	68.90
Generalized Chi-Square	80.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.05202	0.06066
Scale	90.2115	16.0884

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	3.35	0.0186

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	-1.9887	0.1912	11	-10.40	<.0001
ave(26,27,29,30,31,33)	-1.6369	0.1150	11	-14.23	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	4.78	0.0097
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	2.49	0.1431

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
14	**-1.6976**	**0.2701**	**11**	**-6.28**	**<.0001**	**0.05**	**-2.2922**	**-1.1031**	**0.1548**	**0.03534**	**0.09177**	**0.2492**
15	**-2.0381**	**0.2809**	**11**	**-7.26**	**<.0001**	**0.05**	**-2.6564**	**-1.4199**	**0.1153**	**0.02864**	**0.06560**	**0.1947**
16	**-2.2304**	**0.4209**	**11**	**-5.30**	**0.0003**	**0.05**	**-3.1567**	**-1.3041**	**0.09705**	**0.03688**	**0.04083**	**0.2135**
26	**-1.4003**	**0.2740**	**11**	**-5.11**	**0.0003**	**0.05**	**-2.0033**	**-0.7974**	**0.1978**	**0.04346**	**0.1189**	**0.3106**
27	**-1.4168**	**0.2636**	**11**	**-5.38**	**0.0002**	**0.05**	**-1.9969**	**-0.8367**	**0.1952**	**0.04140**	**0.1195**	**0.3022**
29	**-1.9617**	**0.2782**	**11**	**-7.05**	**<.0001**	**0.05**	**-2.5739**	**-1.3495**	**0.1233**	**0.03007**	**0.07084**	**0.2060**
30	**-0.8547**	**0.2636**	**11**	**-3.24**	**0.0078**	**0.05**	**-1.4349**	**-0.2746**	**0.2984**	**0.05519**	**0.1923**	**0.4318**
31	**-3.0983**	**0.3440**	**11**	**-9.01**	**<.0001**	**0.05**	**-3.8555**	**-2.3411**	**0.04318**	**0.01421**	**0.02072**	**0.08778**
33	**-1.0894**	**0.2580**	**11**	**-4.22**	**0.0014**	**0.05**	**-1.6573**	**-0.5215**	**0.2517**	**0.04860**	**0.1601**	**0.3725**

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
14	**15**	**0.3405**	**0.3897**	**11**	**0.87**	**0.4009**	**1.0000**	**0.05**	**-0.5172**	**1.1982**	**-1.9817**	**2.6627**
14	**16**	**0.5328**	**0.5001**	**11**	**1.07**	**0.3096**	**1.0000**	**0.05**	**-0.5679**	**1.6334**	**-2.4472**	**3.5128**
14	**26**	**-0.2973**	**0.3847**	**11**	**-0.77**	**0.4560**	**1.0000**	**0.05**	**-1.1441**	**0.5495**	**-2.5899**	**1.9953**
14	**27**	**-0.2808**	**0.3774**	**11**	**-0.74**	**0.4724**	**1.0000**	**0.05**	**-1.1115**	**0.5498**	**-2.5298**	**1.9681**
14	**29**	**0.2641**	**0.3877**	**11**	**0.68**	**0.5099**	**1.0000**	**0.05**	**-0.5894**	**1.1175**	**-2.0465**	**2.5746**
14	**30**	**-0.8429**	**0.3774**	**11**	**-2.23**	**0.0473**	**1.0000**	**0.05**	**-1.6736**	**-0.01220**	**-3.0919**	**1.4061**
14	**31**	**1.4007**	**0.4374**	**11**	**3.20**	**0.0084**	**1.0000**	**0.05**	**0.4379**	**2.3634**	**-1.2058**	**4.0072**
14	**33**	**-0.6082**	**0.3735**	**11**	**-1.63**	**0.1318**	**1.0000**	**0.05**	**-1.4304**	**0.2140**	**-2.8341**	**1.6177**
15	**16**	**0.1923**	**0.5060**	**11**	**0.38**	**0.7112**	**1.0000**	**0.05**	**-0.9214**	**1.3059**	**-2.8228**	**3.2074**
15	**26**	**-0.6378**	**0.3924**	**11**	**-1.63**	**0.1323**	**1.0000**	**0.05**	**-1.5014**	**0.2258**	**-2.9758**	**1.7003**
15	**27**	**-0.6213**	**0.3852**	**11**	**-1.61**	**0.1350**	**1.0000**	**0.05**	**-1.4691**	**0.2264**	**-2.9166**	**1.6739**
15	**29**	**-0.07644**	**0.3953**	**11**	**-0.19**	**0.8502**	**1.0000**	**0.05**	**-0.9465**	**0.7936**	**-2.4321**	**2.2792**
15	**30**	**-1.1834**	**0.3852**	**11**	**-3.07**	**0.0106**	**1.0000**	**0.05**	**-2.0312**	**-0.3356**	**-3.4787**	**1.1119**

15	**31**	**1.0602**	**0.4441**	**11**	**2.39**	**0.0360**	**1.0000**	**0.05**	**0.08264**	**2.0377**	**-1.5864**	**3.7067**
15	**33**	**-0.9487**	**0.3814**	**11**	**-2.49**	**0.0302**	**1.0000**	**0.05**	**-1.7882**	**-0.1093**	**-3.2214**	**1.3240**
16	**26**	**-0.8300**	**0.5022**	**11**	**-1.65**	**0.1266**	**1.0000**	**0.05**	**-1.9353**	**0.2752**	**-3.8224**	**2.1623**
16	**27**	**-0.8136**	**0.4966**	**11**	**-1.64**	**0.1296**	**1.0000**	**0.05**	**-1.9065**	**0.2794**	**-3.7726**	**2.1455**
16	**29**	**-0.2687**	**0.5045**	**11**	**-0.53**	**0.6049**	**1.0000**	**0.05**	**-1.3790**	**0.8417**	**-3.2748**	**2.7374**
16	**30**	**-1.3756**	**0.4966**	**11**	**-2.77**	**0.0182**	**1.0000**	**0.05**	**-2.4686**	**-0.2827**	**-4.3347**	**1.5835**
16	**31**	**0.8679**	**0.5436**	**11**	**1.60**	**0.1386**	**1.0000**	**0.05**	**-0.3285**	**2.0643**	**-2.3712**	**4.1071**
16	**33**	**-1.1410**	**0.4936**	**11**	**-2.31**	**0.0412**	**1.0000**	**0.05**	**-2.2275**	**-0.05445**	**-4.0826**	**1.8007**
26	**27**	**0.01647**	**0.3802**	**11**	**0.04**	**0.9662**	**1.0000**	**0.05**	**-0.8202**	**0.8532**	**-2.2488**	**2.2818**
26	**29**	**0.5614**	**0.3904**	**11**	**1.44**	**0.1783**	**1.0000**	**0.05**	**-0.2980**	**1.4207**	**-1.7651**	**2.8878**
26	**30**	**-0.5456**	**0.3802**	**11**	**-1.44**	**0.1791**	**1.0000**	**0.05**	**-1.3823**	**0.2911**	**-2.8109**	**1.7198**
26	**31**	**1.6980**	**0.4398**	**11**	**3.86**	**0.0026**	**1.0000**	**0.05**	**0.7300**	**2.6659**	**-0.9227**	**4.3186**
26	**33**	**-0.3109**	**0.3763**	**11**	**-0.83**	**0.4263**	**1.0000**	**0.05**	**-1.1392**	**0.5174**	**-2.5534**	**1.9316**
27	**29**	**0.5449**	**0.3832**	**11**	**1.42**	**0.1828**	**1.0000**	**0.05**	**-0.2985**	**1.3883**	**-1.7386**	**2.8283**
27	**30**	**-0.5621**	**0.3727**	**11**	**-1.51**	**0.1598**	**1.0000**	**0.05**	**-1.3825**	**0.2583**	**-2.7832**	**1.6591**
27	**31**	**1.6815**	**0.4334**	**11**	**3.88**	**0.0026**	**1.0000**	**0.05**	**0.7276**	**2.6354**	**-0.9010**	**4.2640**
27	**33**	**-0.3274**	**0.3688**	**11**	**-0.89**	**0.3937**	**1.0000**	**0.05**	**-1.1392**	**0.4844**	**-2.5252**	**1.8704**
29	**30**	**-1.1069**	**0.3832**	**11**	**-2.89**	**0.0147**	**1.0000**	**0.05**	**-1.9504**	**-0.2635**	**-3.3904**	**1.1766**
29	**31**	**1.1366**	**0.4424**	**11**	**2.57**	**0.0261**	**1.0000**	**0.05**	**0.1628**	**2.1104**	**-1.4997**	**3.7730**
29	**33**	**-0.8723**	**0.3794**	**11**	**-2.30**	**0.0421**	**1.0000**	**0.05**	**-1.7073**	**-0.03722**	**-3.1331**	**1.3885**
30	**31**	**2.2436**	**0.4334**	**11**	**5.18**	**0.0003**	**0.1612**	**0.05**	**1.2897**	**3.1975**	**-0.3390**	**4.8261**
30	**33**	**0.2347**	**0.3688**	**11**	**0.64**	**0.5376**	**1.0000**	**0.05**	**-0.5771**	**1.0465**	**-1.9632**	**2.4325**
31	**33**	**-2.0089**	**0.4300**	**11**	**-4.67**	**0.0007**	**0.3595**	**0.05**	**-2.9554**	**-1.0624**	**-4.5714**	**0.5537**

Mixed run for Question 3
Total Distance Travled

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	TDTlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113

Number of Observations

Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-26.30013391	
1	2	-32.50892609	0.00000034
2	1	-32.50895681	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.02451	0.01772	1.38	0.0833	0.05	0.008650	0.2174
Residual	0.02133	0.003630	5.88	<.0001	0.05	0.01569	0.03071

Fit Statistics

-2 Res Log Likelihood	-32.5
AIC (smaller is better)	-28.5
AICC (smaller is better)	-28.4
BIC (smaller is better)	-24.9

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.51	0.2390

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	5.1736	0.1083	11	47.78	<.0001
ave(26,27,29,30,31,33)	4.9133	0.07122	11	68.98	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	0.64	0.7344
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	4.04	0.0697

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**14**	**5.1103**	**0.1728**	**11**	**29.58**	**<.0001**	**0.05**	**4.7301**	**5.4905**
PLTNo	**15**	**5.1688**	**0.1728**	**11**	**29.92**	**<.0001**	**0.05**	**4.7885**	**5.5490**

PLTNo	16	5.2418	0.2141	11	24.48	<.0001	0.05	4.7705	5.7130
PLTNo	26	4.8522	0.1778	11	27.29	<.0001	0.05	4.4608	5.2436
PLTNo	27	4.9045	0.1728	11	28.39	<.0001	0.05	4.5242	5.2847
PLTNo	29	4.7963	0.1728	11	27.76	<.0001	0.05	4.4161	5.1765
PLTNo	30	4.9844	0.1778	11	28.03	<.0001	0.05	4.5930	5.3758
PLTNo	31	4.9542	0.1728	11	28.68	<.0001	0.05	4.5740	5.3345
PLTNo	33	4.9879	0.1728	11	28.87	<.0001	0.05	4.6077	5.3681

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	14	15	-0.05848	0.2443	11	-0.24	0.8152	Bonferroni	1.0000	0.05	-0.5962	0.4792	-1.5143	1.3973
PLTNo	14	16	-0.1315	0.2751	11	-0.48	0.6420	Bonferroni	1.0000	0.05	-0.7370	0.4740	-1.7709	1.5079
PLTNo	14	26	0.2581	0.2479	11	1.04	0.3203	Bonferroni	1.0000	0.05	-0.2876	0.8037	-1.2193	1.7354
PLTNo	14	27	0.2058	0.2443	11	0.84	0.4175	Bonferroni	1.0000	0.05	-0.3319	0.7435	-1.2500	1.6616
PLTNo	14	29	0.3140	0.2443	11	1.29	0.2251	Bonferroni	1.0000	0.05	-0.2237	0.8517	-1.1418	1.7698
PLTNo	14	30	0.1259	0.2479	11	0.51	0.6216	Bonferroni	1.0000	0.05	-0.4198	0.6716	-1.3514	1.6032
PLTNo	14	31	0.1560	0.2443	11	0.64	0.5361	Bonferroni	1.0000	0.05	-0.3817	0.6938	-1.2998	1.6119
PLTNo	14	33	0.1224	0.2443	11	0.50	0.6264	Bonferroni	1.0000	0.05	-0.4154	0.6601	-1.3335	1.5782
PLTNo	15	16	-0.07303	0.2751	11	-0.27	0.7956	Bonferroni	1.0000	0.05	-0.6786	0.5325	-1.7124	1.5663
PLTNo	15	26	0.3165	0.2479	11	1.28	0.2280	Bonferroni	1.0000	0.05	-0.2291	0.8622	-1.1608	1.7939
PLTNo	15	27	0.2643	0.2443	11	1.08	0.3025	Bonferroni	1.0000	0.05	-0.2734	0.8020	-1.1915	1.7201
PLTNo	15	29	0.3725	0.2443	11	1.52	0.1556	Bonferroni	1.0000	0.05	-0.1653	0.9102	-1.0833	1.8283
PLTNo	15	30	0.1844	0.2479	11	0.74	0.4727	Bonferroni	1.0000	0.05	-0.3613	0.7300	-1.2930	1.6617

PLTNo	15	31	0.2145	0.2443	11	0.88	0.3987	Bonferroni	1.0000	0.05	-0.3232	0.7522	-1.2413	1.6703
PLTNo	15	33	0.1808	0.2443	11	0.74	0.4747	Bonferroni	1.0000	0.05	-0.3569	0.7186	-1.2750	1.6367
PLTNo	16	26	0.3896	0.2783	11	1.40	0.1892	Bonferroni	1.0000	0.05	-0.2230	1.0022	-1.2690	2.0481
PLTNo	16	27	0.3373	0.2751	11	1.23	0.2458	Bonferroni	1.0000	0.05	-0.2682	0.9428	-1.3021	1.9767
PLTNo	16	29	0.4455	0.2751	11	1.62	0.1337	Bonferroni	1.0000	0.05	-0.1600	1.0510	-1.1939	2.0849
PLTNo	16	30	0.2574	0.2783	11	0.92	0.3749	Bonferroni	1.0000	0.05	-0.3552	0.8700	-1.4011	1.9159
PLTNo	16	31	0.2876	0.2751	11	1.05	0.3183	Bonferroni	1.0000	0.05	-0.3180	0.8931	-1.3518	1.9269
PLTNo	16	33	0.2539	0.2751	11	0.92	0.3759	Bonferroni	1.0000	0.05	-0.3516	0.8594	-1.3855	1.8932
PLTNo	26	27	-0.05224	0.2479	11	-0.21	0.8370	Bonferroni	1.0000	0.05	-0.5979	0.4934	-1.5296	1.4251
PLTNo	26	29	0.05594	0.2479	11	0.23	0.8256	Bonferroni	1.0000	0.05	-0.4897	0.6016	-1.4214	1.5333
PLTNo	26	30	-0.1322	0.2515	11	-0.53	0.6096	Bonferroni	1.0000	0.05	-0.6857	0.4213	-1.6307	1.3664
PLTNo	26	31	-0.1020	0.2479	11	-0.41	0.6887	Bonferroni	1.0000	0.05	-0.6477	0.4437	-1.5793	1.3753
PLTNo	26	33	-0.1357	0.2479	11	-0.55	0.5951	Bonferroni	1.0000	0.05	-0.6814	0.4100	-1.6130	1.3416
PLTNo	27	29	0.1082	0.2443	11	0.44	0.6665	Bonferroni	1.0000	0.05	-0.4295	0.6459	-1.3476	1.5640
PLTNo	27	30	-0.07992	0.2479	11	-0.32	0.7532	Bonferroni	1.0000	0.05	-0.6256	0.4658	-1.5573	1.3974
PLTNo	27	31	-0.04976	0.2443	11	-0.20	0.8423	Bonferroni	1.0000	0.05	-0.5875	0.4880	-1.5056	1.4061
PLTNo	27	33	-0.08345	0.2443	11	-0.34	0.7391	Bonferroni	1.0000	0.05	-0.6212	0.4543	-1.5393	1.3724
PLTNo	29	30	-0.1881	0.2479	11	-0.76	0.4640	Bonferroni	1.0000	0.05	-0.7338	0.3576	-1.6654	1.2892

PLTNo	**29**	**31**	**-0.1579**	**0.2443**	**11**	**-0.65**	**0.5312**	**Bonferroni**	**1.0000**	**0.05**	**-0.6957**	**0.3798**	**-1.6138**	**1.2979**
PLTNo	**29**	**33**	**-0.1916**	**0.2443**	**11**	**-0.78**	**0.4494**	**Bonferroni**	**1.0000**	**0.05**	**-0.7294**	**0.3461**	**-1.6474**	**1.2642**
PLTNo	**30**	**31**	**0.03016**	**0.2479**	**11**	**0.12**	**0.9054**	**Bonferroni**	**1.0000**	**0.05**	**-0.5155**	**0.5758**	**-1.4472**	**1.5075**
PLTNo	**30**	**33**	**-0.00354**	**0.2479**	**11**	**-0.01**	**0.9889**	**Bonferroni**	**1.0000**	**0.05**	**-0.5492**	**0.5421**	**-1.4809**	**1.4738**
PLTNo	**31**	**33**	**-0.03369**	**0.2443**	**11**	**-0.14**	**0.8928**	**Bonferroni**	**1.0000**	**0.05**	**-0.5714**	**0.5040**	**-1.4895**	**1.4221**

Mixed run for Question 3
Total Distance Travled

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.11828594	**Variance**	0.01399156
Skewness	-0.1929877	**Kurtosis**	2.663393
Uncorrected SS	1.56705504	**Corrected SS**	1.56705504
Coeff Variation	.	**Std Error Mean**	0.0111274

Basic Statistical Measures

Location		**Variability**	
Mean	0.000000	**Std Deviation**	0.11829
Median	0.002427	**Variance**	0.01399
Mode	0.000000	**Range**	0.81924
		Interquartile Range	0.10309

Tests for Location: Mu0=0

Test		**Statistic**	**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	2.5	**Pr >= |M|**	0.7044
Signed Rank	**S**	136.5	**Pr >= |S|**	0.6899

Tests for Normality

Test		**Statistic**	**p Value**	
Shapiro-Wilk	**W**	0.946038	**Pr < W**	0.0002
Kolmogorov-Smirnov	**D**	0.128083	**Pr > D**	<0.0100

Tests for Normality

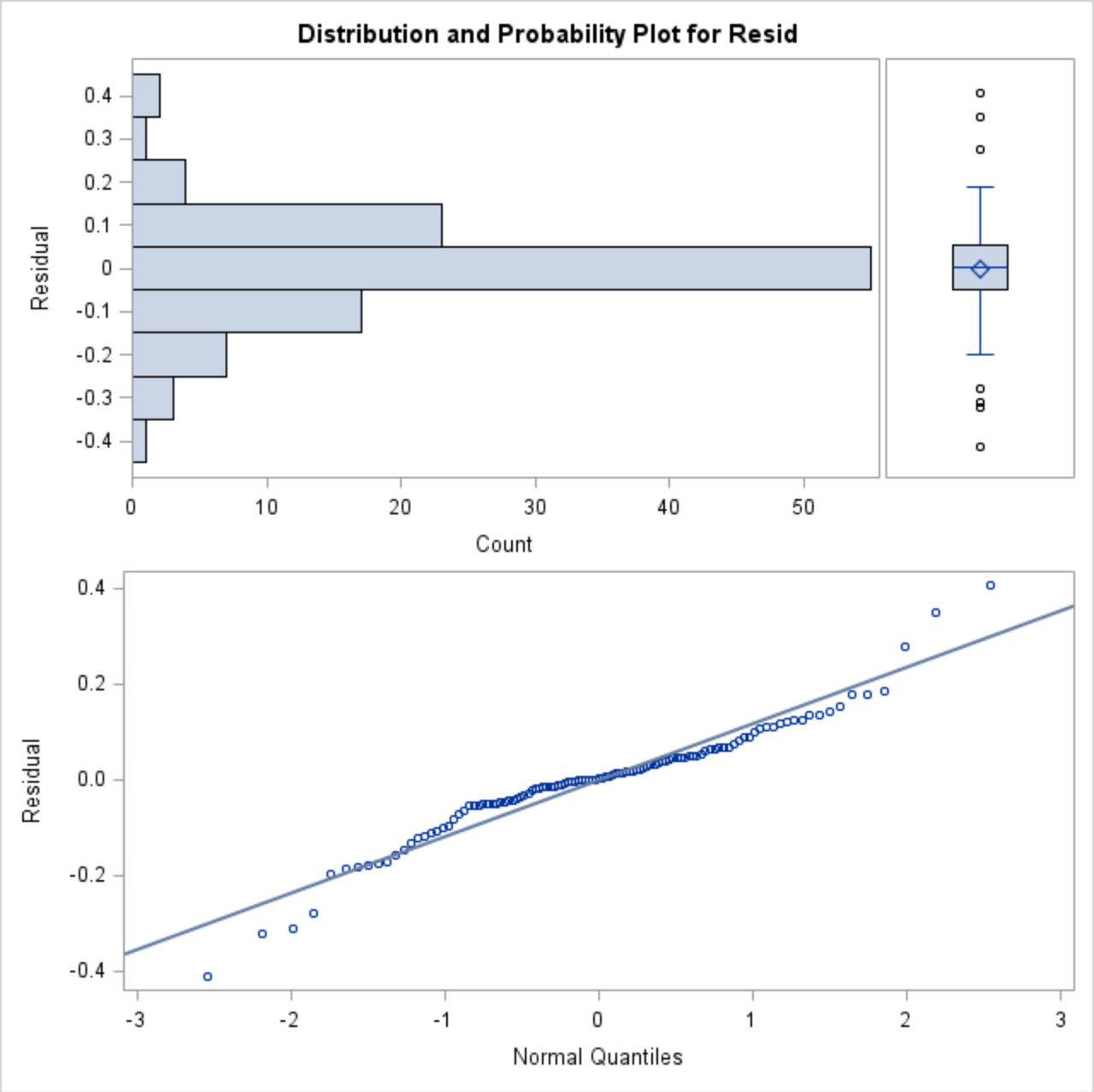
Test	Statistic		p Value	
Cramer-von Mises	**W-Sq**	0.349218	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	1.967801	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.40680059
99%	0.35063308
95%	0.17693938
90%	0.12359961
75% Q3	0.05336120
50% Median	0.00242699
25% Q1	-0.04973365
10%	-0.14552316
5%	-0.18676272
1%	-0.32270884
0% Min	-0.41244175

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.412442	78	0.177436	47
-0.322709	72	0.186763	99
-0.312070	98	0.276720	73
-0.278232	39	0.350633	49
-0.198794	50	0.406801	52



Mixed run for Question 3
Distance Travled off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	DTORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based

Model Information

Degrees of Freedom Method Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	23.54842795	
1	3	23.21811538	0.00009073
2	1	23.21224071	0.00000048
3	1	23.21221076	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.006593	0.01344	0.49	0.3118	0.05	0.000945	10709
Residual	0.04752	0.007834	6.07	<.0001	0.05	0.03526	0.06757

Fit Statistics

-2 Res Log Likelihood	23.2
AIC (smaller is better)	27.2
AICC (smaller is better)	27.4
BIC (smaller is better)	30.8

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	4.93	0.0038

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	4.0139	0.1006	11	39.90	<.0001
ave(26,27,29,30,31,33)	3.8767	0.05744	11	67.49	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	5.61	0.0052
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	1.40	0.2613

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**14**	**4.1021**	**0.1359**	**11**	**30.18**	**<.0001**	**0.05**	**3.8030**	**4.4013**
PLTNo	**15**	**4.0173**	**0.1359**	**11**	**29.56**	**<.0001**	**0.05**	**3.7182**	**4.3165**
PLTNo	**16**	**3.9221**	**0.2326**	**11**	**16.86**	**<.0001**	**0.05**	**3.4101**	**4.4341**
PLTNo	**26**	**3.9153**	**0.1498**	**11**	**26.14**	**<.0001**	**0.05**	**3.5856**	**4.2449**
PLTNo	**27**	**4.0724**	**0.1359**	**11**	**29.96**	**<.0001**	**0.05**	**3.7733**	**4.3716**
PLTNo	**29**	**3.6310**	**0.1359**	**11**	**26.71**	**<.0001**	**0.05**	**3.3319**	**3.9302**
PLTNo	**30**	**4.2615**	**0.1498**	**11**	**28.45**	**<.0001**	**0.05**	**3.9319**	**4.5912**
PLTNo	**31**	**3.2008**	**0.1359**	**11**	**23.55**	**<.0001**	**0.05**	**2.9016**	**3.4999**
PLTNo	**33**	**4.1791**	**0.1359**	**11**	**30.75**	**<.0001**	**0.05**	**3.8799**	**4.4782**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**14**	**15**	**0.08480**	**0.1922**	**11**	**0.44**	**0.6676**	**Bonferroni**	**1.0000**	**0.05**	**-0.3383**	**0.5079**	**-1.0606**	**1.2302**
PLTNo	**14**	**16**	**0.1800**	**0.2694**	**11**	**0.67**	**0.5178**	**Bonferroni**	**1.0000**	**0.05**	**-0.4130**	**0.7730**	**-1.4255**	**1.7855**
PLTNo	**14**	**26**	**0.1869**	**0.2023**	**11**	**0.92**	**0.3754**	**Bonferroni**	**1.0000**	**0.05**	**-0.2583**	**0.6320**	**-1.0184**	**1.3921**
PLTNo	**14**	**27**	**0.02970**	**0.1922**	**11**	**0.15**	**0.8800**	**Bonferroni**	**1.0000**	**0.05**	**-0.3934**	**0.4528**	**-1.1157**	**1.1751**
PLTNo	**14**	**29**	**0.4711**	**0.1922**	**11**	**2.45**	**0.0322**	**Bonferroni**	**1.0000**	**0.05**	**0.04803**	**0.8942**	**-0.6743**	**1.6165**

PLTNo	14	30	-0.1594	0.2023	11	-0.79	0.4473	Bonferroni	1.0000	0.05	-0.6046	0.2858	-1.3647	1.0459
PLTNo	14	31	0.9013	0.1922	11	4.69	0.0007	Bonferroni	0.3494	0.05	0.4783	1.3244	-0.2441	2.0468
PLTNo	14	33	-0.07693	0.1922	11	-0.40	0.6967	Bonferroni	1.0000	0.05	-0.5000	0.3461	-1.2224	1.0685
PLTNo	15	16	0.09523	0.2694	11	0.35	0.7304	Bonferroni	1.0000	0.05	-0.4978	0.6882	-1.5103	1.7007
PLTNo	15	26	0.1021	0.2023	11	0.50	0.6238	Bonferroni	1.0000	0.05	-0.3431	0.5472	-1.1032	1.3073
PLTNo	15	27	-0.05511	0.1922	11	-0.29	0.7797	Bonferroni	1.0000	0.05	-0.4782	0.3680	-1.2005	1.0903
PLTNo	15	29	0.3863	0.1922	11	2.01	0.0696	Bonferroni	1.0000	0.05	-0.03677	0.8094	-0.7591	1.5317
PLTNo	15	30	-0.2442	0.2023	11	-1.21	0.2526	Bonferroni	1.0000	0.05	-0.6894	0.2010	-1.4495	0.9610
PLTNo	15	31	0.8165	0.1922	11	4.25	0.0014	Bonferroni	0.7236	0.05	0.3935	1.2396	-0.3289	1.9620
PLTNo	15	33	-0.1617	0.1922	11	-0.84	0.4180	Bonferroni	1.0000	0.05	-0.5848	0.2613	-1.3072	0.9837
PLTNo	16	26	0.006838	0.2767	11	0.02	0.9807	Bonferroni	1.0000	0.05	-0.6021	0.6158	-1.6419	1.6556
PLTNo	16	27	-0.1503	0.2694	11	-0.56	0.5880	Bonferroni	1.0000	0.05	-0.7433	0.4427	-1.7558	1.4552
PLTNo	16	29	0.2911	0.2694	11	1.08	0.3031	Bonferroni	1.0000	0.05	-0.3019	0.8841	-1.3144	1.8966
PLTNo	16	30	-0.3394	0.2767	11	-1.23	0.2455	Bonferroni	1.0000	0.05	-0.9484	0.2695	-1.9882	1.3093
PLTNo	16	31	0.7213	0.2694	11	2.68	0.0215	Bonferroni	1.0000	0.05	0.1283	1.3143	-0.8842	2.3268
PLTNo	16	33	-0.2570	0.2694	11	-0.95	0.3607	Bonferroni	1.0000	0.05	-0.8500	0.3360	-1.8625	1.3485
PLTNo	26	27	-0.1572	0.2023	11	-0.78	0.4535	Bonferroni	1.0000	0.05	-0.6023	0.2880	-1.3624	1.0481
PLTNo	26	29	0.2842	0.2023	11	1.41	0.1875	Bonferroni	1.0000	0.05	-0.1609	0.7294	-0.9210	1.4895

PLTNo	**26**	**30**	**-0.3463**	**0.2118**	**11**	**-1.63**	**0.1304**	**Bonferroni**	**1.0000**	**0.05**	**-0.8125**	**0.1199**	**-1.6085**	**0.9160**
PLTNo	**26**	**31**	**0.7145**	**0.2023**	**11**	**3.53**	**0.0047**	**Bonferroni**	**1.0000**	**0.05**	**0.2693**	**1.1596**	**-0.4908**	**1.9197**
PLTNo	**26**	**33**	**-0.2638**	**0.2023**	**11**	**-1.30**	**0.2188**	**Bonferroni**	**1.0000**	**0.05**	**-0.7090**	**0.1814**	**-1.4691**	**0.9415**
PLTNo	**27**	**29**	**0.4414**	**0.1922**	**11**	**2.30**	**0.0423**	**Bonferroni**	**1.0000**	**0.05**	**0.01834**	**0.8645**	**-0.7040**	**1.5868**
PLTNo	**27**	**30**	**-0.1891**	**0.2023**	**11**	**-0.93**	**0.3699**	**Bonferroni**	**1.0000**	**0.05**	**-0.6343**	**0.2561**	**-1.3944**	**1.0162**
PLTNo	**27**	**31**	**0.8716**	**0.1922**	**11**	**4.53**	**0.0009**	**Bonferroni**	**0.4495**	**0.05**	**0.4486**	**1.2947**	**-0.2738**	**2.0171**
PLTNo	**27**	**33**	**-0.1066**	**0.1922**	**11**	**-0.55**	**0.5902**	**Bonferroni**	**1.0000**	**0.05**	**-0.5297**	**0.3164**	**-1.2521**	**1.0388**
PLTNo	**29**	**30**	**-0.6305**	**0.2023**	**11**	**-3.12**	**0.0098**	**Bonferroni**	**1.0000**	**0.05**	**-1.0757**	**-0.1853**	**-1.8358**	**0.5747**
PLTNo	**29**	**31**	**0.4302**	**0.1922**	**11**	**2.24**	**0.0468**	**Bonferroni**	**1.0000**	**0.05**	**0.007159**	**0.8533**	**-0.7152**	**1.5757**
PLTNo	**29**	**33**	**-0.5480**	**0.1922**	**11**	**-2.85**	**0.0158**	**Bonferroni**	**1.0000**	**0.05**	**-0.9711**	**-0.1250**	**-1.6935**	**0.5974**
PLTNo	**30**	**31**	**1.0608**	**0.2023**	**11**	**5.24**	**0.0003**	**Bonferroni**	**0.1452**	**0.05**	**0.6156**	**1.5059**	**-0.1445**	**2.2660**
PLTNo	**30**	**33**	**0.08248**	**0.2023**	**11**	**0.41**	**0.6913**	**Bonferroni**	**1.0000**	**0.05**	**-0.3627**	**0.5277**	**-1.1228**	**1.2877**
PLTNo	**31**	**33**	**-0.9783**	**0.1922**	**11**	**-5.09**	**0.0003**	**Bonferroni**	**0.1847**	**0.05**	**-1.4014**	**-0.5552**	**-2.1237**	**0.1672**

Mixed run for Question 3
Distance Travled off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.18216742	**Variance**	0.03318497
Skewness	-0.8457152	**Kurtosis**	2.21132822
Uncorrected SS	3.71671643	**Corrected SS**	3.71671643
Coeff Variation	.	**Std Error Mean**	0.01713687

Basic Statistical Measures

Location		Variability	
Mean	0.000000	**Std Deviation**	0.18217
Median	0.004977	**Variance**	0.03318
Mode	.	**Range**	1.16338
		Interquartile Range	0.17446

Tests for Location: Mu0=0

Test		Statistic		p Value
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	6	**Pr >= |M|**	0.2986
Signed Rank	**S**	292.5	**Pr >= |S|**	0.3982

Tests for Normality

Test		Statistic		p Value
Shapiro-Wilk	**W**	0.944847	**Pr < W**	0.0002
Kolmogorov-Smirnov	**D**	0.119956	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.342186	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	1.985116	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

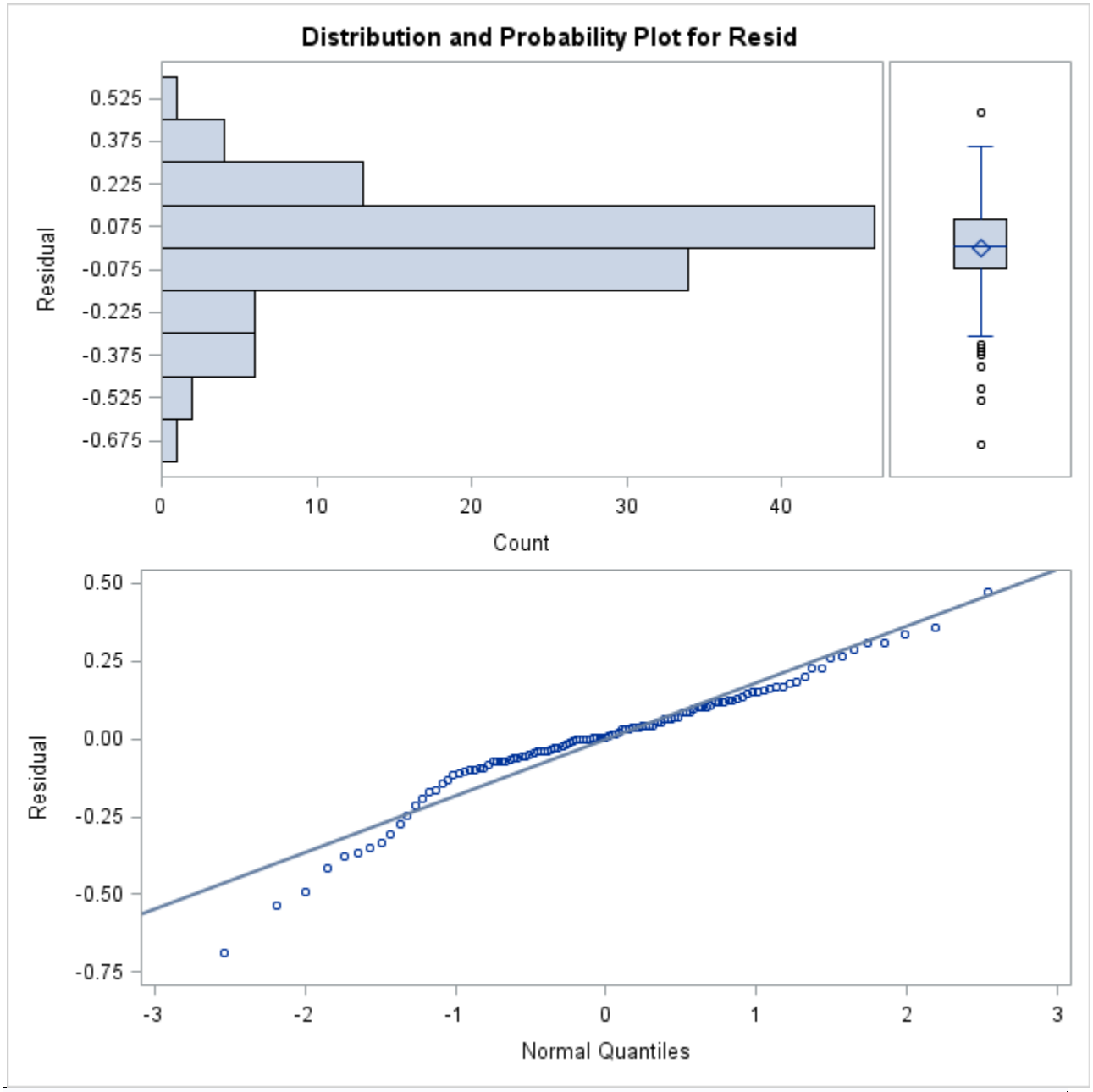
Quantile	Estimate
100% Max	0.47292006
99%	0.35917805
95%	0.28928936
90%	0.18133024
75% Q3	0.10371488
50% Median	0.00497671
25% Q1	-0.07074593
10%	-0.21203949
5%	-0.36482156
1%	-0.53731757
0% Min	-0.69046267

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.690463	98	0.306314	52
-0.537318	72	0.306794	9
-0.491707	39	0.337103	47

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.413902	10	0.359178	95
-0.375679	89	0.472920	73



Mixed run for Question 3
Average Total Speed

The Mixed Procedure

Model Information

Model Information

Data Set	WORK.VEH0
Dependent Variable	ATSlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-238.37547795	
1	2	-241.37924739	0.00085176
2	1	-241.57038852	0.00007076
3	1	-241.58494794	0.00000064
4	1	-241.58507343	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.001722	0.001397	1.23	0.1088	0.05	0.000556	0.02329
Residual	0.001569	0.000271	5.79	<.0001	0.05	0.001149	0.002272

Fit Statistics

-2 Res Log Likelihood	-241.6
AIC (smaller is better)	-237.6
AICC (smaller is better)	-237.4
BIC (smaller is better)	-234.0

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.76	0.1591

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	0.7940	0.02891	11	27.47	<.0001
ave(26,27,29,30,31,33)	0.7376	0.01896	11	38.89	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	0.74	0.6568
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	2.67	0.1308

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**14**	**0.7672**	**0.04598**	**11**	**16.68**	**<.0001**	**0.05**	**0.6660**	**0.8684**
PLTNo	**15**	**0.7717**	**0.04598**	**11**	**16.78**	**<.0001**	**0.05**	**0.6705**	**0.8729**
PLTNo	**16**	**0.8431**	**0.05737**	**11**	**14.70**	**<.0001**	**0.05**	**0.7168**	**0.9694**
PLTNo	**26**	**0.6979**	**0.04738**	**11**	**14.73**	**<.0001**	**0.05**	**0.5936**	**0.8022**
PLTNo	**27**	**0.7436**	**0.04598**	**11**	**16.17**	**<.0001**	**0.05**	**0.6424**	**0.8448**
PLTNo	**29**	**0.7219**	**0.04598**	**11**	**15.70**	**<.0001**	**0.05**	**0.6207**	**0.8231**
PLTNo	**30**	**0.7191**	**0.04738**	**11**	**15.18**	**<.0001**	**0.05**	**0.6148**	**0.8233**
PLTNo	**31**	**0.7949**	**0.04598**	**11**	**17.29**	**<.0001**	**0.05**	**0.6937**	**0.8961**
PLTNo	**33**	**0.7480**	**0.04598**	**11**	**16.27**	**<.0001**	**0.05**	**0.6468**	**0.8492**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**14**	**15**	**-0.00452**	**0.06503**	**11**	**-0.07**	**0.9459**	**Bonferroni**	**1.0000**	**0.05**	**-0.1476**	**0.1386**	**-0.3920**	**0.3830**
PLTNo	**14**	**16**	**-0.07589**	**0.07352**	**11**	**-1.03**	**0.3241**	**Bonferroni**	**1.0000**	**0.05**	**-0.2377**	**0.0859**	**-0.5140**	**0.3622**

PLTNo	14	26	0.06931	0.06603	11	1.05	0.3164	Bonferroni	1.0000	0.05	-0.07602	0.2146	-0.3241	0.4628
PLTNo	14	27	0.02361	0.06503	11	0.36	0.7235	Bonferroni	1.0000	0.05	-0.1195	0.1667	-0.3639	0.4111
PLTNo	14	29	0.04531	0.06503	11	0.70	0.5004	Bonferroni	1.0000	0.05	-0.09782	0.1884	-0.3422	0.4328
PLTNo	14	30	0.04814	0.06603	11	0.73	0.4812	Bonferroni	1.0000	0.05	-0.09718	0.1935	-0.3453	0.4416
PLTNo	14	31	-0.02767	0.06503	11	-0.43	0.6787	Bonferroni	1.0000	0.05	-0.1708	0.1155	-0.4152	0.3598
PLTNo	14	33	0.01918	0.06503	11	0.29	0.7735	Bonferroni	1.0000	0.05	-0.1239	0.1623	-0.3683	0.4067
PLTNo	15	16	-0.07137	0.07352	11	-0.97	0.3525	Bonferroni	1.0000	0.05	-0.2332	0.0904 5	-0.5095	0.3667
PLTNo	15	26	0.07382	0.06603	11	1.12	0.2874	Bonferroni	1.0000	0.05	-0.07150	0.2191	-0.3196	0.4673
PLTNo	15	27	0.02812	0.06503	11	0.43	0.6738	Bonferroni	1.0000	0.05	-0.1150	0.1712	-0.3594	0.4156
PLTNo	15	29	0.04982	0.06503	11	0.77	0.4597	Bonferroni	1.0000	0.05	-0.09330	0.1929	-0.3377	0.4373
PLTNo	15	30	0.05266	0.06603	11	0.80	0.4420	Bonferroni	1.0000	0.05	-0.09267	0.1980	-0.3408	0.4461
PLTNo	15	31	-0.02315	0.06503	11	-0.36	0.7286	Bonferroni	1.0000	0.05	-0.1663	0.1200	-0.4107	0.3643
PLTNo	15	33	0.02370	0.06503	11	0.36	0.7224	Bonferroni	1.0000	0.05	-0.1194	0.1668	-0.3638	0.4112
PLTNo	16	26	0.1452	0.07441	11	1.95	0.0769	Bonferroni	1.0000	0.05	-0.01857	0.3090	-0.2982	0.5886
PLTNo	16	27	0.09950	0.07352	11	1.35	0.2031	Bonferroni	1.0000	0.05	-0.06233	0.2613	-0.3386	0.5376
PLTNo	16	29	0.1212	0.07352	11	1.65	0.1275	Bonferroni	1.0000	0.05	-0.04063	0.2830	-0.3169	0.5593
PLTNo	16	30	0.1240	0.07441	11	1.67	0.1237	Bonferroni	1.0000	0.05	-0.03974	0.2878	-0.3194	0.5674
PLTNo	16	31	0.04822	0.07352	11	0.66	0.5254	Bonferroni	1.0000	0.05	-0.1136	0.2100	-0.3899	0.4863

PLTNo	**16**	**33**	**0.09507**	**0.07352**	**11**	**1.29**	**0.2225**	**Bonferroni**	**1.0000**	**0.05**	**-0.06675**	**0.2569**	**-0.3430**	**0.5332**
PLTNo	**26**	**27**	**-0.04570**	**0.06603**	**11**	**-0.69**	**0.5032**	**Bonferroni**	**1.0000**	**0.05**	**-0.1910**	**0.09962**	**-0.4391**	**0.3477**
PLTNo	**26**	**29**	**-0.02400**	**0.06603**	**11**	**-0.36**	**0.7231**	**Bonferroni**	**1.0000**	**0.05**	**-0.1693**	**0.1213**	**-0.4174**	**0.3694**
PLTNo	**26**	**30**	**-0.02116**	**0.06701**	**11**	**-0.32**	**0.7580**	**Bonferroni**	**1.0000**	**0.05**	**-0.1687**	**0.1263**	**-0.4205**	**0.3781**
PLTNo	**26**	**31**	**-0.09697**	**0.06603**	**11**	**-1.47**	**0.1699**	**Bonferroni**	**1.0000**	**0.05**	**-0.2423**	**0.04835**	**-0.4904**	**0.2965**
PLTNo	**26**	**33**	**-0.05012**	**0.06603**	**11**	**-0.76**	**0.4637**	**Bonferroni**	**1.0000**	**0.05**	**-0.1954**	**0.09520**	**-0.4436**	**0.3433**
PLTNo	**27**	**29**	**0.02170**	**0.06503**	**11**	**0.33**	**0.7449**	**Bonferroni**	**1.0000**	**0.05**	**-0.1214**	**0.1648**	**-0.3658**	**0.4092**
PLTNo	**27**	**30**	**0.02454**	**0.06603**	**11**	**0.37**	**0.7173**	**Bonferroni**	**1.0000**	**0.05**	**-0.1208**	**0.1699**	**-0.3689**	**0.4180**
PLTNo	**27**	**31**	**-0.05127**	**0.06503**	**11**	**-0.79**	**0.4471**	**Bonferroni**	**1.0000**	**0.05**	**-0.1944**	**0.09185**	**-0.4388**	**0.3362**
PLTNo	**27**	**33**	**-0.00442**	**0.06503**	**11**	**-0.07**	**0.9470**	**Bonferroni**	**1.0000**	**0.05**	**-0.1476**	**0.1387**	**-0.3919**	**0.3831**
PLTNo	**29**	**30**	**0.002835**	**0.06603**	**11**	**0.04**	**0.9665**	**Bonferroni**	**1.0000**	**0.05**	**-0.1425**	**0.1482**	**-0.3906**	**0.3963**
PLTNo	**29**	**31**	**-0.07297**	**0.06503**	**11**	**-1.12**	**0.2857**	**Bonferroni**	**1.0000**	**0.05**	**-0.2161**	**0.07015**	**-0.4605**	**0.3145**
PLTNo	**29**	**33**	**-0.02612**	**0.06503**	**11**	**-0.40**	**0.6956**	**Bonferroni**	**1.0000**	**0.05**	**-0.1693**	**0.1170**	**-0.4136**	**0.3614**
PLTNo	**30**	**31**	**-0.07581**	**0.06603**	**11**	**-1.15**	**0.2753**	**Bonferroni**	**1.0000**	**0.05**	**-0.2211**	**0.06951**	**-0.4693**	**0.3176**
PLTNo	**30**	**33**	**-0.02896**	**0.06603**	**11**	**-0.44**	**0.6694**	**Bonferroni**	**1.0000**	**0.05**	**-0.1743**	**0.1164**	**-0.4224**	**0.3645**
PLTNo	**31**	**33**	**0.04685**	**0.06503**	**11**	**0.72**	**0.4863**	**Bonferroni**	**1.0000**	**0.05**	**-0.09628**	**0.1900**	**-0.3406**	**0.4344**

Mixed run for Question 3
Average Total Speed

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.03210572	**Variance**	0.00103078
Skewness	0.75282805	**Kurtosis**	1.98781932
Uncorrected SS	0.11544702	**Corrected SS**	0.11544702
Coeff Variation	.	**Std Error Mean**	0.00302025

Basic Statistical Measures

Location		Variability	
Mean	0.00000	**Std Deviation**	0.03211
Median	-0.00087	**Variance**	0.00103
Mode	-0.00000	**Range**	0.19056
		Interquartile Range	0.02455

Tests for Location: Mu0=0

Test		Statistic	p Value	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	-6.5	**Pr >= |M|**	0.2589
Signed Rank	**S**	-321.5	**Pr >= |S|**	0.3593

Tests for Normality

Test		Statistic	p Value	
Shapiro-Wilk	**W**	0.934691	**Pr < W**	<0.0001
Kolmogorov-Smirnov	**D**	0.152839	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.553438	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	2.820869	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

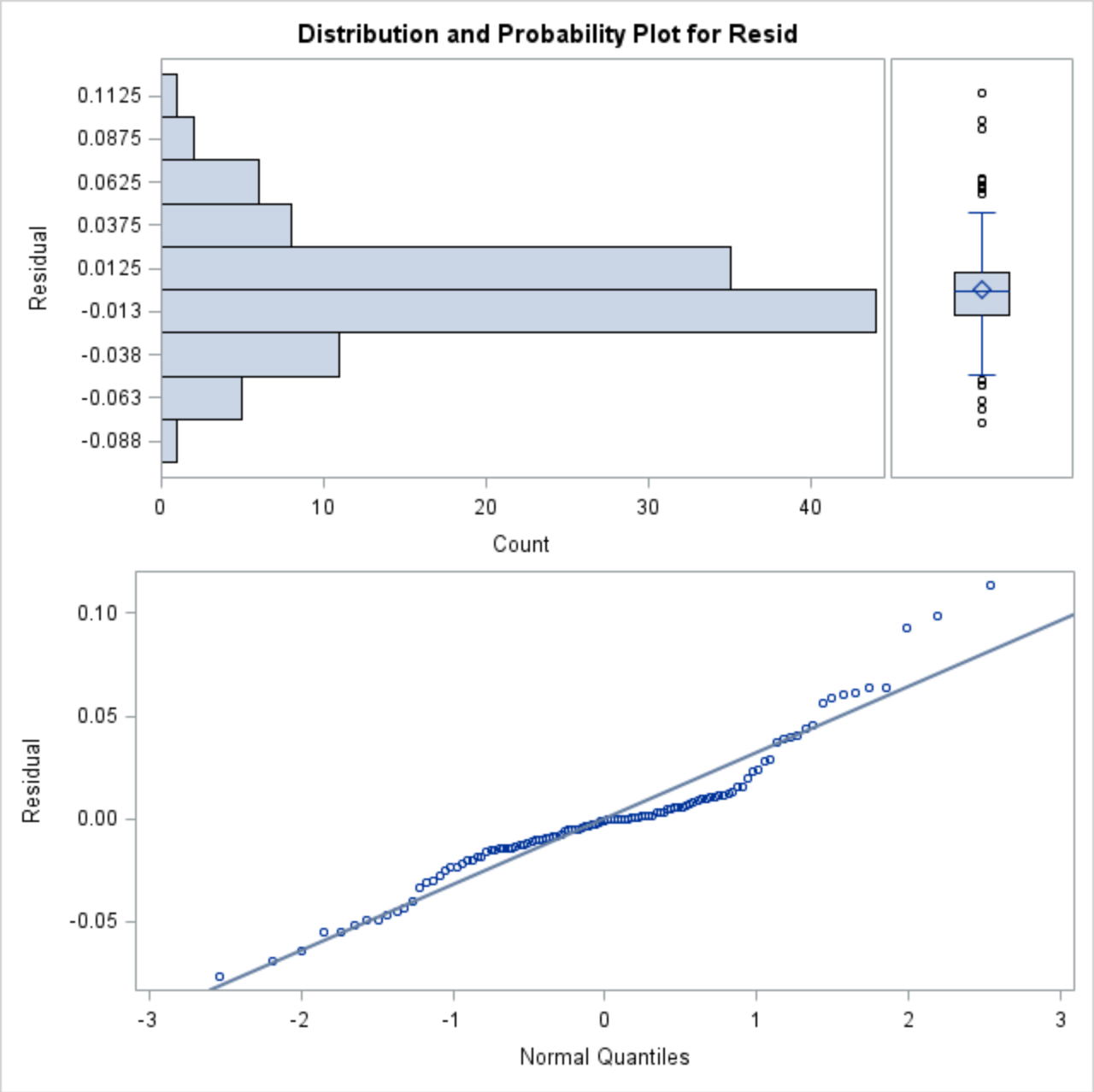
Quantile	Estimate
100% Max	0.113675338
99%	0.098290565
95%	0.060936563
90%	0.040257404
75% Q3	0.010049607
50% Median	-0.000871691
25% Q1	-0.014495570
10%	-0.040140680
5%	-0.051897997
1%	-0.068993663

Quantiles (Definition 5)

Quantile	Estimate
0% Min	-0.076887752

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.0768878	73	0.0637188	112
-0.0689937	19	0.0641151	20
-0.0645071	95	0.0932330	72
-0.0553955	1	0.0982906	10
-0.0553123	92	0.1136753	98



Mixed run for Question 3
Average Speed off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	ASORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based

Model Information

Degrees of Freedom Method Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-206.01425035	
1	1	-206.01425035	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0	.	.	.	.	.	.
Residual	0.002776	0.000439	6.32	<.0001	0.05	0.002083	0.003885

Fit Statistics

-2 Res Log Likelihood	-206.0
AIC (smaller is better)	-204.0
AICC (smaller is better)	-204.0
BIC (smaller is better)	-202.2

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	6.31	0.0013

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	0.5643	0.02151	11	26.24	<.0001
ave(26,27,29,30,31,33)	0.5134	0.01134	11	45.29	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	5.34	0.0064
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	4.38	0.0603

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**14**	**0.5944**	**0.02634**	**11**	**22.56**	**<.0001**	**0.05**	**0.5364**	**0.6524**
PLTNo	**15**	**0.5623**	**0.02634**	**11**	**21.35**	**<.0001**	**0.05**	**0.5043**	**0.6203**
PLTNo	**16**	**0.5361**	**0.05269**	**11**	**10.18**	**<.0001**	**0.05**	**0.4202**	**0.6521**
PLTNo	**26**	**0.4749**	**0.03042**	**11**	**15.61**	**<.0001**	**0.05**	**0.4079**	**0.5418**
PLTNo	**27**	**0.6299**	**0.02634**	**11**	**23.91**	**<.0001**	**0.05**	**0.5719**	**0.6879**
PLTNo	**29**	**0.4826**	**0.02634**	**11**	**18.32**	**<.0001**	**0.05**	**0.4246**	**0.5406**
PLTNo	**30**	**0.5228**	**0.03042**	**11**	**17.19**	**<.0001**	**0.05**	**0.4559**	**0.5898**
PLTNo	**31**	**0.4308**	**0.02634**	**11**	**16.35**	**<.0001**	**0.05**	**0.3728**	**0.4888**
PLTNo	**33**	**0.5393**	**0.02634**	**11**	**20.47**	**<.0001**	**0.05**	**0.4813**	**0.5973**

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**14**	**15**	**0.03209**	**0.03725**	**11**	**0.86**	**0.4073**	**Bonferroni**	**1.0000**	**0.05**	**-0.04990**	**0.1141**	**-0.1899**	**0.2541**
PLTNo	**14**	**16**	**0.05828**	**0.05890**	**11**	**0.99**	**0.3437**	**Bonferroni**	**1.0000**	**0.05**	**-0.07137**	**0.1879**	**-0.2927**	**0.4093**
PLTNo	**14**	**26**	**0.1196**	**0.04024**	**11**	**2.97**	**0.0127**	**Bonferroni**	**1.0000**	**0.05**	**0.03099**	**0.2081**	**-0.1202**	**0.3593**
PLTNo	**14**	**27**	**-0.03550**	**0.03725**	**11**	**-0.95**	**0.3611**	**Bonferroni**	**1.0000**	**0.05**	**-0.1175**	**0.04650**	**-0.2575**	**0.1865**
PLTNo	**14**	**29**	**0.1118**	**0.03725**	**11**	**3.00**	**0.0121**	**Bonferroni**	**1.0000**	**0.05**	**0.02979**	**0.1938**	**-0.1102**	**0.3338**
PLTNo	**14**	**30**	**0.07157**	**0.04024**	**11**	**1.78**	**0.1029**	**Bonferroni**	**1.0000**	**0.05**	**-0.01699**	**0.1601**	**-0.1682**	**0.3114**
PLTNo	**14**	**31**	**0.1636**	**0.03725**	**11**	**4.39**	**0.0011**	**Bonferroni**	**0.5683**	**0.05**	**0.08165**	**0.2456**	**-0.05835**	**0.3856**
PLTNo	**14**	**33**	**0.05509**	**0.03725**	**11**	**1.48**	**0.1672**	**Bonferroni**	**1.0000**	**0.05**	**-0.02690**	**0.1371**	**-0.1669**	**0.2771**

PLTNo	15	16	0.02618	0.05890	11	0.44	0.6653	Bonferroni	1.0000	0.05	-0.1035	0.1558	-0.3248	0.3772
PLTNo	15	26	0.08746	0.04024	11	2.17	0.0524	Bonferroni	1.0000	0.05	-0.00110	0.1760	-0.1523	0.3272
PLTNo	15	27	-0.06760	0.03725	11	-1.81	0.0969	Bonferroni	1.0000	0.05	-0.1496	0.01440	-0.2896	0.1544
PLTNo	15	29	0.07970	0.03725	11	2.14	0.0557	Bonferroni	1.0000	0.05	-0.00230	0.1617	-0.1423	0.3017
PLTNo	15	30	0.03948	0.04024	11	0.98	0.3476	Bonferroni	1.0000	0.05	-0.04909	0.1280	-0.2003	0.2793
PLTNo	15	31	0.1315	0.03725	11	3.53	0.0047	Bonferroni	1.0000	0.05	0.04955	0.2135	-0.09045	0.3535
PLTNo	15	33	0.02300	0.03725	11	0.62	0.5496	Bonferroni	1.0000	0.05	-0.05900	0.1050	-0.1990	0.2450
PLTNo	16	26	0.06128	0.06084	11	1.01	0.3354	Bonferroni	1.0000	0.05	-0.07262	0.1952	-0.3012	0.4238
PLTNo	16	27	-0.09378	0.05890	11	-1.59	0.1397	Bonferroni	1.0000	0.05	-0.2234	0.03587	-0.4448	0.2572
PLTNo	16	29	0.05351	0.05890	11	0.91	0.3831	Bonferroni	1.0000	0.05	-0.07614	0.1832	-0.2975	0.4045
PLTNo	16	30	0.01329	0.06084	11	0.22	0.8310	Bonferroni	1.0000	0.05	-0.1206	0.1472	-0.3492	0.3758
PLTNo	16	31	0.1054	0.05890	11	1.79	0.1012	Bonferroni	1.0000	0.05	-0.02428	0.2350	-0.2456	0.4564
PLTNo	16	33	-0.00319	0.05890	11	-0.05	0.9578	Bonferroni	1.0000	0.05	-0.1328	0.1265	-0.3542	0.3478
PLTNo	26	27	-0.1551	0.04024	11	-3.85	0.0027	Bonferroni	1.0000	0.05	-0.2436	-0.06649	-0.3948	0.08472
PLTNo	26	29	-0.00777	0.04024	11	-0.19	0.8504	Bonferroni	1.0000	0.05	-0.09633	0.08080	-0.2476	0.2320
PLTNo	26	30	-0.04799	0.04302	11	-1.12	0.2884	Bonferroni	1.0000	0.05	-0.1427	0.04670	-0.3043	0.2084
PLTNo	26	31	0.04409	0.04024	11	1.10	0.2967	Bonferroni	1.0000	0.05	-0.04448	0.1327	-0.1957	0.2839
PLTNo	26	33	-0.06447	0.04024	11	-1.60	0.1374	Bonferroni	1.0000	0.05	-0.1530	0.02410	-0.3043	0.1753
PLTNo	27	29	0.1473	0.03725	11	3.95	0.0023	Bonferroni	1.0000	0.05	0.06530	0.2293	-0.07470	0.3693
PLTNo	27	30	0.1071	0.04024	11	2.66	0.0222	Bonferroni	1.0000	0.05	0.01851	0.1956	-0.1327	0.3469
PLTNo	27	31	0.1991	0.03725	11	5.35	0.0002	Bonferroni	0.1243	0.05	0.1171	0.2811	-0.02285	0.4211
PLTNo	27	33	0.09059	0.03725	11	2.43	0.0333	Bonferroni	1.0000	0.05	0.008596	0.1726	-0.1314	0.3126
PLTNo	29	30	-0.04022	0.04024	11	-1.00	0.3391	Bonferroni	1.0000	0.05	-0.1288	0.04835	-0.2800	0.1996

PLTNo	**29**	**31**	**0.05185**	**0.03725**	**11**	**1.39**	**0.1915**	**Bonferroni**	**1.0000**	**0.05**	**-0.03014**	**0.1339**	**-0.1701**	**0.2739**
PLTNo	**29**	**33**	**-0.05670**	**0.03725**	**11**	**-1.52**	**0.1562**	**Bonferroni**	**1.0000**	**0.05**	**-0.1387**	**0.0253**	**-0.2787**	**0.1653**
PLTNo	**30**	**31**	**0.09207**	**0.04024**	**11**	**2.29**	**0.0429**	**Bonferroni**	**1.0000**	**0.05**	**0.003505**	**0.1806**	**-0.1477**	**0.3319**
PLTNo	**30**	**33**	**-0.01648**	**0.04024**	**11**	**-0.41**	**0.6900**	**Bonferroni**	**1.0000**	**0.05**	**-0.1050**	**0.0720**	**-0.2563**	**0.2233**
PLTNo	**31**	**33**	**-0.1086**	**0.03725**	**11**	**-2.91**	**0.0141**	**Bonferroni**	**1.0000**	**0.05**	**-0.1905**	**-0.0266**	**-0.3305**	**0.1134**

Mixed run for Question 3
Average Speed off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.04452763	**Variance**	0.00198271
Skewness	0.34863605	**Kurtosis**	0.71198088
Uncorrected SS	0.22206346	**Corrected SS**	0.22206346
Coeff Variation	.	**Std Error Mean**	0.00418881

Basic Statistical Measures

Location		**Variability**	
Mean	0	**Std Deviation**	0.04453
Median	2.22E-16	**Variance**	0.00198
Mode	.	**Range**	0.24251
		Interquartile Range	0.05197

Tests for Location: Mu0=0

Test		**Statistic**	**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	1.5	**Pr >= |M|**	0.8509
Signed Rank	**S**	-62.5	**Pr >= |S|**	0.8588

Tests for Normality

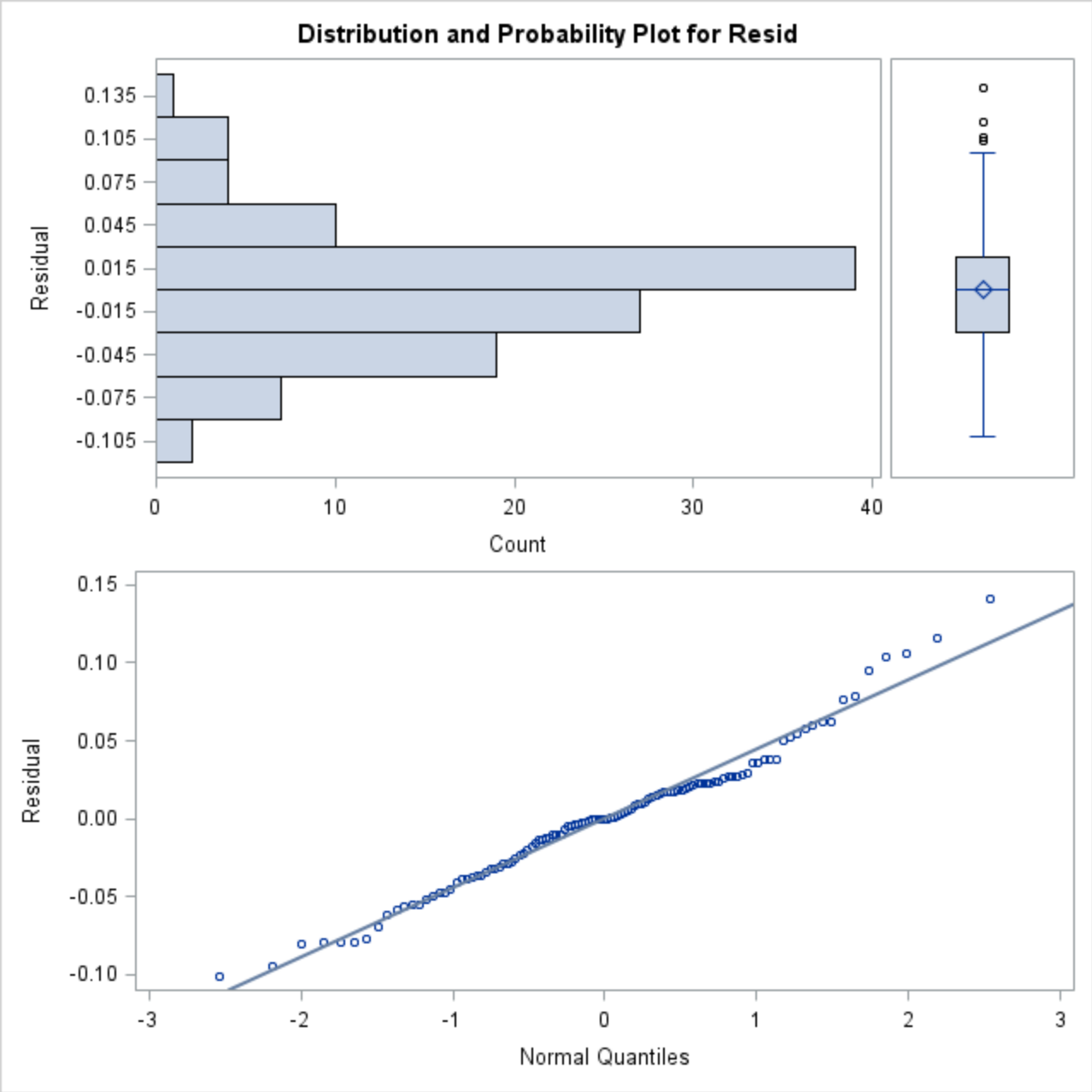
Test		**Statistic**	**p Value**	
Shapiro-Wilk	**W**	0.979833	**Pr < W**	0.0858
Kolmogorov-Smirnov	**D**	0.085227	**Pr > D**	0.0429
Cramer-von Mises	**W-Sq**	0.109019	**Pr > W-Sq**	0.0875
Anderson-Darling	**A-Sq**	0.682817	**Pr > A-Sq**	0.0767

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.1407496
99%	0.1162069
95%	0.0789372
90%	0.0542222
75% Q3	0.0230829
50% Median	0.0000000
25% Q1	-0.0288873
10%	-0.0554263
5%	-0.0792241
1%	-0.0951276
0% Min	-0.1017639

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.1017639	92	0.0952329	86
-0.0951276	39	0.1036196	91
-0.0807315	11	0.1064194	75
-0.0799748	13	0.1162069	10
-0.0795641	105	0.1407496	103



Mixed run for Question 3
%off Road time with Turing Radius less than 30m

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ORTTR
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked

Model Information

Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**2**	-0.648253783	0.12113683	104.6996
1	**0**	**1**	-0.446617934	0.00165994	104.2631
2	**0**	**0**	-0.44607549	0.00000000	104.2605

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-0.45
Generalized Chi-Square	80.00

Fit Statistics

Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Scale	117.41	18.7217

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	6.22	0.0014

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	0.2887	0.07628	11	3.79	0.0030
ave(26,27,29,30,31,33)	0.4429	0.04092	11	10.82	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	6.09	0.0038
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	3.17	0.1025

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
14	**0.1423**	**0.09213**	**11**	**1.54**	**0.1508**	**0.05**	**-0.06050**	**0.3451**	**0.5355**	**0.02292**	**0.4849**	**0.5854**
15	**0.3136**	**0.09303**	**11**	**3.37**	**0.0062**	**0.05**	**0.1089**	**0.5184**	**0.5778**	**0.02270**	**0.5272**	**0.6268**
16	**0.4103**	**0.1877**	**11**	**2.19**	**0.0513**	**0.05**	**-0.00281**	**0.8233**	**0.6012**	**0.04500**	**0.4993**	**0.6949**
26	**0.7811**	**0.1143**	**11**	**6.83**	**<.0001**	**0.05**	**0.5295**	**1.0327**	**0.6859**	**0.02463**	**0.6294**	**0.7374**
27	**0.01883**	**0.09190**	**11**	**0.20**	**0.8414**	**0.05**	**-0.1834**	**0.2211**	**0.5047**	**0.02297**	**0.4543**	**0.5551**
29	**0.5636**	**0.09557**	**11**	**5.90**	**0.0001**	**0.05**	**0.3532**	**0.7740**	**0.6373**	**0.02209**	**0.5874**	**0.6844**
30	**0.2923**	**0.1073**	**11**	**2.73**	**0.0197**	**0.05**	**0.05624**	**0.5284**	**0.5726**	**0.02625**	**0.5141**	**0.6291**
31	**0.6743**	**0.09717**	**11**	**6.94**	**<.0001**	**0.05**	**0.4604**	**0.8882**	**0.6625**	**0.02173**	**0.6131**	**0.7085**
33	**0.3273**	**0.09313**	**11**	**3.51**	**0.0048**	**0.05**	**0.1224**	**0.5323**	**0.5811**	**0.02267**	**0.5306**	**0.6300**

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
14	**15**	**-0.1714**	**0.1309**	**11**	**-1.31**	**0.2173**	**1.0000**	**0.05**	**-0.4595**	**0.1168**	**-0.9516**	**0.6088**
14	**16**	**-0.2680**	**0.2091**	**11**	**-1.28**	**0.2263**	**1.0000**	**0.05**	**-0.7281**	**0.1922**	**-1.5138**	**0.9779**
14	**26**	**-0.6388**	**0.1468**	**11**	**-4.35**	**0.0012**	**0.6091**	**0.05**	**-0.9619**	**-0.3156**	**-1.5137**	**0.2361**

14	**27**	**0.1235**	**0.1301**	**11**	**0.95**	**0.3632**	**1.0000**	**0.05**	**-0.1630**	**0.4099**	**-0.6520**	**0.8989**
14	**29**	**-0.4213**	**0.1327**	**11**	**-3.17**	**0.0089**	**1.0000**	**0.05**	**-0.7135**	**-0.1291**	**-1.2124**	**0.3697**
14	**30**	**-0.1500**	**0.1414**	**11**	**-1.06**	**0.3114**	**1.0000**	**0.05**	**-0.4612**	**0.1612**	**-0.9925**	**0.6925**
14	**31**	**-0.5320**	**0.1339**	**11**	**-3.97**	**0.0022**	**1.0000**	**0.05**	**-0.8267**	**-0.2373**	**-1.3299**	**0.2659**
14	**33**	**-0.1851**	**0.1310**	**11**	**-1.41**	**0.1854**	**1.0000**	**0.05**	**-0.4734**	**0.1033**	**-0.9657**	**0.5956**
15	**16**	**-0.09662**	**0.2095**	**11**	**-0.46**	**0.6536**	**1.0000**	**0.05**	**-0.5577**	**0.3644**	**-1.3448**	**1.1516**
15	**26**	**-0.4674**	**0.1474**	**11**	**-3.17**	**0.0089**	**1.0000**	**0.05**	**-0.7918**	**-0.1430**	**-1.3457**	**0.4108**
15	**27**	**0.2948**	**0.1308**	**11**	**2.25**	**0.0455**	**1.0000**	**0.05**	**0.006994**	**0.5826**	**-0.4844**	**1.0741**
15	**29**	**-0.2499**	**0.1334**	**11**	**-1.87**	**0.0877**	**1.0000**	**0.05**	**-0.5435**	**0.04361**	**-1.0447**	**0.5448**
15	**30**	**0.02135**	**0.1420**	**11**	**0.15**	**0.8832**	**1.0000**	**0.05**	**-0.2911**	**0.3338**	**-0.8247**	**0.8674**
15	**31**	**-0.3606**	**0.1345**	**11**	**-2.68**	**0.0214**	**1.0000**	**0.05**	**-0.6567**	**-0.06455**	**-1.1623**	**0.4410**
15	**33**	**-0.01369**	**0.1316**	**11**	**-0.10**	**0.9190**	**1.0000**	**0.05**	**-0.3034**	**0.2760**	**-0.7981**	**0.7707**
16	**26**	**-0.3708**	**0.2198**	**11**	**-1.69**	**0.1196**	**1.0000**	**0.05**	**-0.8545**	**0.1129**	**-1.6803**	**0.9387**
16	**27**	**0.3914**	**0.2090**	**11**	**1.87**	**0.0878**	**1.0000**	**0.05**	**-0.06851**	**0.8514**	**-0.8538**	**1.6367**
16	**29**	**-0.1533**	**0.2106**	**11**	**-0.73**	**0.4818**	**1.0000**	**0.05**	**-0.6169**	**0.3102**	**-1.4084**	**1.1017**
16	**30**	**0.1180**	**0.2162**	**11**	**0.55**	**0.5961**	**1.0000**	**0.05**	**-0.3578**	**0.5937**	**-1.1701**	**1.4061**
16	**31**	**-0.2640**	**0.2113**	**11**	**-1.25**	**0.2375**	**1.0000**	**0.05**	**-0.7292**	**0.2011**	**-1.5234**	**0.9953**
16	**33**	**0.08292**	**0.2095**	**11**	**0.40**	**0.6998**	**1.0000**	**0.05**	**-0.3782**	**0.5441**	**-1.1656**	**1.3314**
26	**27**	**0.7622**	**0.1467**	**11**	**5.20**	**0.0003**	**0.1563**	**0.05**	**0.4394**	**1.0851**	**-0.1118**	**1.6363**
26	**29**	**0.2175**	**0.1490**	**11**	**1.46**	**0.1724**	**1.0000**	**0.05**	**-0.1105**	**0.5454**	**-0.6704**	**1.1054**
26	**30**	**0.4888**	**0.1567**	**11**	**3.12**	**0.0098**	**1.0000**	**0.05**	**0.1438**	**0.8338**	**-0.4453**	**1.4228**
26	**31**	**0.1068**	**0.1500**	**11**	**0.71**	**0.4915**	**1.0000**	**0.05**	**-0.2234**	**0.4370**	**-0.7872**	**1.0008**
26	**33**	**0.4537**	**0.1474**	**11**	**3.08**	**0.0105**	**1.0000**	**0.05**	**0.1292**	**0.7783**	**-0.4249**	**1.3324**
27	**29**	**-0.5448**	**0.1326**	**11**	**-4.11**	**0.0017**	**0.9154**	**0.05**	**-0.8366**	**-0.2529**	**-1.3349**	**0.2453**
27	**30**	**-0.2735**	**0.1412**	**11**	**-1.94**	**0.0790**	**1.0000**	**0.05**	**-0.5843**	**0.03740**	**-1.1151**	**0.5682**
27	**31**	**-0.6555**	**0.1337**	**11**	**-4.90**	**0.0005**	**0.2487**	**0.05**	**-0.9498**	**-0.3611**	**-1.4525**	**0.1415**
27	**33**	**-0.3085**	**0.1308**	**11**	**-2.36**	**0.0380**	**1.0000**	**0.05**	**-0.5965**	**-0.02053**	**-1.0882**	**0.4712**
29	**30**	**0.2713**	**0.1437**	**11**	**1.89**	**0.0856**	**1.0000**	**0.05**	**-0.04488**	**0.5875**	**-0.5847**	**1.1273**
29	**31**	**-0.1107**	**0.1363**	**11**	**-0.81**	**0.4339**	**1.0000**	**0.05**	**-0.4107**	**0.1893**	**-0.9229**	**0.7015**
29	**33**	**0.2363**	**0.1334**	**11**	**1.77**	**0.1043**	**1.0000**	**0.05**	**-0.05746**	**0.5300**	**-0.5589**	**1.0314**
30	**31**	**-0.3820**	**0.1447**	**11**	**-2.64**	**0.0230**	**1.0000**	**0.05**	**-0.7005**	**-0.06346**	**-1.2444**	**0.4804**
30	**33**	**-0.03505**	**0.1420**	**11**	**-0.25**	**0.8097**	**1.0000**	**0.05**	**-0.3477**	**0.2776**	**-0.8815**	**0.8114**
31	**33**	**0.3469**	**0.1346**	**11**	**2.58**	**0.0257**	**1.0000**	**0.05**	**0.05070**	**0.6432**	**-0.4551**	**1.1490**

Mixed run for Question 3
Total Distance Travled

The GLIMMIX Procedure

Model Information

Model Information

Data Set	WORK.VEH0
Response Variable	TDT
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	110.74194034	2.00000000	7.085E-8
1	**0**	**5**	92.89707586	0.34904183	6.488E-6

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
2	**0**	**4**	93.944964829	0.17519470	5.695E-8
3	**0**	**4**	94.120384366	0.02493056	2.228E-8
4	**0**	**2**	94.078672996	0.01164962	1.15E-6
5	**0**	**2**	94.1084775	0.00447363	2.556E-7
6	**0**	**1**	94.100867274	0.00199333	4.369E-6
7	**0**	**1**	94.106246954	0.00080726	1.586E-6
8	**0**	**1**	94.104846989	0.00035847	1.47E-7
9	**0**	**1**	94.105816738	0.00014600	5.189E-8
10	**0**	**1**	94.105558683	0.00006474	5.015E-9
11	**0**	**1**	94.105733676	0.00002640	1.185E-9
12	**0**	**1**	94.105686179	0.00001170	3.18E-10
13	**0**	**1**	94.105717765	0.00000478	8.31E-10
14	**0**	**0**	94.105709029	0.00000211	4.438E-6
15	**0**	**0**	94.105715392	0.00000014	1.977E-6
16	**0**	**0**	94.105714415	0.00000008	2.364E-6
17	**0**	**0**	94.10571499	0.00000001	2.137E-6
18	**0**	**0**	94.105714899	0.00000001	2.173E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	94.11
Generalized Chi-Square	8.31
Gener. Chi-Square / DF	0.10

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.1193	0.08636
Residual	0.1039	0.01768

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.58	0.2111

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	12.0154	0.2389	11	50.30	<.0001
ave(26,27,29,30,31,33)	11.3429	0.1571	11	72.19	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	0.81	0.6051
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	5.53	0.0383

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
14	**11.9030**	**0.3811**	**11**	**31.23**	**<.0001**	**0.05**	**11.0642**	**12.7417**	**147704**	**56288**	**63845**	**341713**
15	**12.0735**	**0.3811**	**11**	**31.68**	**<.0001**	**0.05**	**11.2348**	**12.9123**	**175175**	**66756**	**75719**	**405266**
16	**12.0697**	**0.4724**	**11**	**25.55**	**<.0001**	**0.05**	**11.0300**	**13.1093**	**174499**	**82425**	**61700**	**493520**
26	**11.2174**	**0.3923**	**11**	**28.60**	**<.0001**	**0.05**	**10.3540**	**12.0808**	**74416**	**29192**	**31383**	**176454**
27	**11.2960**	**0.3811**	**11**	**29.64**	**<.0001**	**0.05**	**10.4573**	**12.1348**	**80502**	**30678**	**34797**	**186241**
29	**11.1225**	**0.3811**	**11**	**29.19**	**<.0001**	**0.05**	**10.2837**	**11.9612**	**67674**	**25789**	**29252**	**156563**
30	**11.5060**	**0.3923**	**11**	**29.33**	**<.0001**	**0.05**	**10.6426**	**12.3694**	**99310**	**38957**	**41882**	**235482**
31	**11.4291**	**0.3811**	**11**	**29.99**	**<.0001**	**0.05**	**10.5903**	**12.2679**	**91959**	**35044**	**39749**	**212746**
33	**11.4862**	**0.3811**	**11**	**30.14**	**<.0001**	**0.05**	**10.6474**	**12.3249**	**97360**	**37102**	**42083**	**225242**

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
14	**15**	**-0.1706**	**0.5389**	**11**	**-0.32**	**0.7576**	**1.0000**	**0.05**	**-1.3568**	**1.0156**	**-3.3820**	**3.0409**
14	**16**	**-0.1667**	**0.6069**	**11**	**-0.27**	**0.7887**	**1.0000**	**0.05**	**-1.5025**	**1.1691**	**-3.7832**	**3.4498**
14	**26**	**0.6855**	**0.5469**	**11**	**1.25**	**0.2360**	**1.0000**	**0.05**	**-0.5182**	**1.8893**	**-2.5734**	**3.9445**
14	**27**	**0.6069**	**0.5389**	**11**	**1.13**	**0.2841**	**1.0000**	**0.05**	**-0.5793**	**1.7931**	**-2.6045**	**3.8184**
14	**29**	**0.7805**	**0.5389**	**11**	**1.45**	**0.1754**	**1.0000**	**0.05**	**-0.4057**	**1.9667**	**-2.4310**	**3.9920**
14	**30**	**0.3970**	**0.5469**	**11**	**0.73**	**0.4831**	**1.0000**	**0.05**	**-0.8068**	**1.6007**	**-2.8620**	**3.6559**
14	**31**	**0.4739**	**0.5389**	**11**	**0.88**	**0.3980**	**1.0000**	**0.05**	**-0.7123**	**1.6601**	**-2.7376**	**3.6853**
14	**33**	**0.4168**	**0.5389**	**11**	**0.77**	**0.4556**	**1.0000**	**0.05**	**-0.7694**	**1.6030**	**-2.7947**	**3.6283**
15	**16**	**0.003863**	**0.6069**	**11**	**0.01**	**0.9950**	**1.0000**	**0.05**	**-1.3319**	**1.3397**	**-3.6127**	**3.6204**
15	**26**	**0.8561**	**0.5469**	**11**	**1.57**	**0.1458**	**1.0000**	**0.05**	**-0.3476**	**2.0598**	**-2.4028**	**4.1151**
15	**27**	**0.7775**	**0.5389**	**11**	**1.44**	**0.1770**	**1.0000**	**0.05**	**-0.4087**	**1.9637**	**-2.4340**	**3.9890**
15	**29**	**0.9511**	**0.5389**	**11**	**1.76**	**0.1053**	**1.0000**	**0.05**	**-0.2351**	**2.1373**	**-2.2604**	**4.1625**
15	**30**	**0.5675**	**0.5469**	**11**	**1.04**	**0.3217**	**1.0000**	**0.05**	**-0.6362**	**1.7713**	**-2.6914**	**3.8265**
15	**31**	**0.6444**	**0.5389**	**11**	**1.20**	**0.2569**	**1.0000**	**0.05**	**-0.5417**	**1.8306**	**-2.5670**	**3.8559**
15	**33**	**0.5874**	**0.5389**	**11**	**1.09**	**0.2991**	**1.0000**	**0.05**	**-0.5988**	**1.7736**	**-2.6241**	**3.7988**
16	**26**	**0.8522**	**0.6140**	**11**	**1.39**	**0.1926**	**1.0000**	**0.05**	**-0.4992**	**2.2037**	**-2.8065**	**4.5110**
16	**27**	**0.7736**	**0.6069**	**11**	**1.27**	**0.2287**	**1.0000**	**0.05**	**-0.5622**	**2.1094**	**-2.8429**	**4.3902**

16	**29**	**0.9472**	**0.6069**	**11**	**1.56**	**0.1469**	**1.0000**	**0.05**	**-0.3886**	**2.2830**	**-2.6693**	**4.5638**
16	**30**	**0.5637**	**0.6140**	**11**	**0.92**	**0.3783**	**1.0000**	**0.05**	**-0.7877**	**1.9151**	**-3.0951**	**4.2225**
16	**31**	**0.6406**	**0.6069**	**11**	**1.06**	**0.3138**	**1.0000**	**0.05**	**-0.6952**	**1.9764**	**-2.9760**	**4.2571**
16	**33**	**0.5835**	**0.6069**	**11**	**0.96**	**0.3570**	**1.0000**	**0.05**	**-0.7523**	**1.9193**	**-3.0330**	**4.2000**
26	**27**	**-0.07861**	**0.5469**	**11**	**-0.14**	**0.8883**	**1.0000**	**0.05**	**-1.2823**	**1.1251**	**-3.3376**	**3.1803**
26	**29**	**0.09497**	**0.5469**	**11**	**0.17**	**0.8653**	**1.0000**	**0.05**	**-1.1088**	**1.2987**	**-3.1640**	**3.3539**
26	**30**	**-0.2886**	**0.5548**	**11**	**-0.52**	**0.6132**	**1.0000**	**0.05**	**-1.5096**	**0.9324**	**-3.5943**	**3.0172**
26	**31**	**-0.2117**	**0.5469**	**11**	**-0.39**	**0.7061**	**1.0000**	**0.05**	**-1.4154**	**0.9921**	**-3.4706**	**3.0473**
26	**33**	**-0.2687**	**0.5469**	**11**	**-0.49**	**0.6328**	**1.0000**	**0.05**	**-1.4725**	**0.9350**	**-3.5277**	**2.9902**
27	**29**	**0.1736**	**0.5389**	**11**	**0.32**	**0.7534**	**1.0000**	**0.05**	**-1.0126**	**1.3598**	**-3.0379**	**3.3850**
27	**30**	**-0.2100**	**0.5469**	**11**	**-0.38**	**0.7084**	**1.0000**	**0.05**	**-1.4137**	**0.9938**	**-3.4689**	**3.0490**
27	**31**	**-0.1331**	**0.5389**	**11**	**-0.25**	**0.8095**	**1.0000**	**0.05**	**-1.3192**	**1.0531**	**-3.3445**	**3.0784**
27	**33**	**-0.1901**	**0.5389**	**11**	**-0.35**	**0.7309**	**1.0000**	**0.05**	**-1.3763**	**0.9961**	**-3.4016**	**3.0213**
29	**30**	**-0.3835**	**0.5469**	**11**	**-0.70**	**0.4977**	**1.0000**	**0.05**	**-1.5873**	**0.8202**	**-3.6425**	**2.8754**
29	**31**	**-0.3066**	**0.5389**	**11**	**-0.57**	**0.5808**	**1.0000**	**0.05**	**-1.4928**	**0.8795**	**-3.5181**	**2.9048**
29	**33**	**-0.3637**	**0.5389**	**11**	**-0.67**	**0.5137**	**1.0000**	**0.05**	**-1.5499**	**0.8225**	**-3.5752**	**2.8477**
30	**31**	**0.07691**	**0.5469**	**11**	**0.14**	**0.8907**	**1.0000**	**0.05**	**-1.1268**	**1.2806**	**-3.1821**	**3.3359**
30	**33**	**0.01983**	**0.5469**	**11**	**0.04**	**0.9717**	**1.0000**	**0.05**	**-1.1839**	**1.2236**	**-3.2391**	**3.2788**
31	**33**	**-0.05708**	**0.5389**	**11**	**-0.11**	**0.9176**	**1.0000**	**0.05**	**-1.2433**	**1.1291**	**-3.2685**	**3.1544**

Mixed run for Question 3
Distance Travled off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	DTOR
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	153.57551837	1.08937058	2.54E-6
1	**0**	**5**	119.99891093	0.57801020	6.807E-6
2	**0**	**3**	123.83309344	0.11037092	7.825E-6
3	**0**	**3**	124.18246324	0.02798512	1.804E-7
4	**0**	**2**	124.11414595	0.00934460	0.000021
5	**0**	**2**	124.14130514	0.00339592	8.558E-6
6	**0**	**2**	124.1323467	0.00116752	1.003E-6
7	**0**	**2**	124.13560426	0.00041524	1.273E-7
8	**0**	**2**	124.13447847	0.00014502	1.551E-8
9	**0**	**2**	124.13487853	0.00005123	1.936E-9
10	**0**	**1**	124.13473855	0.00002212	0.000017
11	**0**	**1**	124.13478942	0.00001339	0.00001
12	**0**	**1**	124.13476724	0.00000694	5.245E-6
13	**0**	**1**	124.13477912	0.00000360	2.721E-6
14	**0**	**0**	124.13477307	0.00000018	6.1E-6
15	**0**	**0**	124.13477555	0.00000002	5.103E-6
16	**0**	**0**	124.13477533	0.00000000	5.24E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	124.13
Generalized Chi-Square	13.06
Gener. Chi-Square / DF	0.16

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.05368	0.06362
Residual	0.1633	0.02717

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	5.08	0.0033

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	9.2771	0.2124	11	43.68	<.0001
ave(26,27,29,30,31,33)	9.0316	0.1285	11	70.30	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	5.00	0.0082
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	0.98	0.3440

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
14	**9.4491**	**0.3074**	**11**	**30.74**	**<.0001**	**0.05**	**8.7725**	**10.1257**	**12697**	**3903.21**	**6454.52**	**24978**
15	**9.3511**	**0.3074**	**11**	**30.42**	**<.0001**	**0.05**	**8.6745**	**10.0277**	**11511**	**3538.68**	**5851.72**	**22645**
16	**9.0310**	**0.4658**	**11**	**19.39**	**<.0001**	**0.05**	**8.0058**	**10.0562**	**8357.97**	**3893.05**	**2998.23**	**23299**
26	**9.1738**	**0.3288**	**11**	**27.90**	**<.0001**	**0.05**	**8.4501**	**9.8975**	**9641.16**	**3169.96**	**4675.65**	**19880**
27	**9.3934**	**0.3074**	**11**	**30.56**	**<.0001**	**0.05**	**8.7168**	**10.0700**	**12009**	**3691.70**	**6104.74**	**23624**
29	**8.6791**	**0.3074**	**11**	**28.23**	**<.0001**	**0.05**	**8.0025**	**9.3557**	**5878.88**	**1807.21**	**2988.48**	**11565**
30	**9.8219**	**0.3288**	**11**	**29.87**	**<.0001**	**0.05**	**9.0982**	**10.5455**	**18432**	**6060.44**	**8939.06**	**38007**
31	**7.4907**	**0.3074**	**11**	**24.37**	**<.0001**	**0.05**	**6.8141**	**8.1673**	**1791.33**	**550.67**	**910.61**	**3523.87**
33	**9.6308**	**0.3074**	**11**	**31.33**	**<.0001**	**0.05**	**8.9542**	**10.3074**	**15226**	**4680.66**	**7740.14**	**29953**

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
14	**15**	**0.09805**	**0.4347**	**11**	**0.23**	**0.8257**	**1.0000**	**0.05**	**-0.8588**	**1.0549**	**-2.4925**	**2.6886**
14	**16**	**0.4182**	**0.5581**	**11**	**0.75**	**0.4694**	**1.0000**	**0.05**	**-0.8102**	**1.6465**	**-2.9074**	**3.7437**
14	**26**	**0.2753**	**0.4501**	**11**	**0.61**	**0.5532**	**1.0000**	**0.05**	**-0.7154**	**1.2660**	**-2.4069**	**2.9576**
14	**27**	**0.05571**	**0.4347**	**11**	**0.13**	**0.9003**	**1.0000**	**0.05**	**-0.9011**	**1.0126**	**-2.5349**	**2.6463**
14	**29**	**0.7700**	**0.4347**	**11**	**1.77**	**0.1042**	**1.0000**	**0.05**	**-0.1868**	**1.7269**	**-1.8206**	**3.3606**
14	**30**	**-0.3727**	**0.4501**	**11**	**-0.83**	**0.4252**	**1.0000**	**0.05**	**-1.3634**	**0.6180**	**-3.0549**	**2.3095**
14	**31**	**1.9584**	**0.4347**	**11**	**4.50**	**0.0009**	**0.4721**	**0.05**	**1.0016**	**2.9153**	**-0.6322**	**4.5490**
14	**33**	**-0.1816**	**0.4347**	**11**	**-0.42**	**0.6841**	**1.0000**	**0.05**	**-1.1385**	**0.7752**	**-2.7722**	**2.4089**
15	**16**	**0.3201**	**0.5581**	**11**	**0.57**	**0.5778**	**1.0000**	**0.05**	**-0.9082**	**1.5485**	**-3.0055**	**3.6457**
15	**26**	**0.1773**	**0.4501**	**11**	**0.39**	**0.7012**	**1.0000**	**0.05**	**-0.8134**	**1.1680**	**-2.5049**	**2.8595**
15	**27**	**-0.04233**	**0.4347**	**11**	**-0.10**	**0.9242**	**1.0000**	**0.05**	**-0.9992**	**0.9145**	**-2.6329**	**2.5483**
15	**29**	**0.6720**	**0.4347**	**11**	**1.55**	**0.1505**	**1.0000**	**0.05**	**-0.2849**	**1.6288**	**-1.9186**	**3.2626**
15	**30**	**-0.4708**	**0.4501**	**11**	**-1.05**	**0.3181**	**1.0000**	**0.05**	**-1.4615**	**0.5199**	**-3.1530**	**2.2114**
15	**31**	**1.8604**	**0.4347**	**11**	**4.28**	**0.0013**	**0.6866**	**0.05**	**0.9035**	**2.8172**	**-0.7302**	**4.4510**
15	**33**	**-0.2797**	**0.4347**	**11**	**-0.64**	**0.5332**	**1.0000**	**0.05**	**-1.2365**	**0.6772**	**-2.8703**	**2.3109**
16	**26**	**-0.1428**	**0.5701**	**11**	**-0.25**	**0.8068**	**1.0000**	**0.05**	**-1.3977**	**1.1121**	**-3.5403**	**3.2546**
16	**27**	**-0.3625**	**0.5581**	**11**	**-0.65**	**0.5294**	**1.0000**	**0.05**	**-1.5908**	**0.8659**	**-3.6880**	**2.9631**

16	**29**	**0.3518**	**0.5581**	**11**	**0.63**	**0.5413**	**1.0000**	**0.05**	**-0.8765**	**1.5802**	**-2.9737**	**3.6774**
16	**30**	**-0.7909**	**0.5701**	**11**	**-1.39**	**0.1929**	**1.0000**	**0.05**	**-2.0458**	**0.4640**	**-4.1883**	**2.6066**
16	**31**	**1.5403**	**0.5581**	**11**	**2.76**	**0.0186**	**1.0000**	**0.05**	**0.3119**	**2.7686**	**-1.7853**	**4.8658**
16	**33**	**-0.5998**	**0.5581**	**11**	**-1.07**	**0.3055**	**1.0000**	**0.05**	**-1.8281**	**0.6285**	**-3.9254**	**2.7258**
26	**27**	**-0.2196**	**0.4501**	**11**	**-0.49**	**0.6352**	**1.0000**	**0.05**	**-1.2103**	**0.7711**	**-2.9018**	**2.4626**
26	**29**	**0.4947**	**0.4501**	**11**	**1.10**	**0.2952**	**1.0000**	**0.05**	**-0.4960**	**1.4854**	**-2.1875**	**3.1769**
26	**30**	**-0.6481**	**0.4650**	**11**	**-1.39**	**0.1909**	**1.0000**	**0.05**	**-1.6715**	**0.3754**	**-3.4189**	**2.1228**
26	**31**	**1.6831**	**0.4501**	**11**	**3.74**	**0.0033**	**1.0000**	**0.05**	**0.6924**	**2.6738**	**-0.9991**	**4.3653**
26	**33**	**-0.4570**	**0.4501**	**11**	**-1.02**	**0.3318**	**1.0000**	**0.05**	**-1.4477**	**0.5337**	**-3.1392**	**2.2252**
27	**29**	**0.7143**	**0.4347**	**11**	**1.64**	**0.1286**	**1.0000**	**0.05**	**-0.2426**	**1.6712**	**-1.8763**	**3.3049**
27	**30**	**-0.4284**	**0.4501**	**11**	**-0.95**	**0.3616**	**1.0000**	**0.05**	**-1.4191**	**0.5623**	**-3.1106**	**2.2538**
27	**31**	**1.9027**	**0.4347**	**11**	**4.38**	**0.0011**	**0.5836**	**0.05**	**0.9458**	**2.8596**	**-0.6879**	**4.4933**
27	**33**	**-0.2374**	**0.4347**	**11**	**-0.55**	**0.5960**	**1.0000**	**0.05**	**-1.1942**	**0.7195**	**-2.8279**	**2.3532**
29	**30**	**-1.1427**	**0.4501**	**11**	**-2.54**	**0.0275**	**1.0000**	**0.05**	**-2.1334**	**-0.1520**	**-3.8249**	**1.5395**
29	**31**	**1.1884**	**0.4347**	**11**	**2.73**	**0.0195**	**1.0000**	**0.05**	**0.2315**	**2.1453**	**-1.4022**	**3.7790**
29	**33**	**-0.9517**	**0.4347**	**11**	**-2.19**	**0.0511**	**1.0000**	**0.05**	**-1.9085**	**0.005203**	**-3.5422**	**1.6389**
30	**31**	**2.3311**	**0.4501**	**11**	**5.18**	**0.0003**	**0.1606**	**0.05**	**1.3404**	**3.3218**	**-0.3511**	**5.0134**
30	**33**	**0.1911**	**0.4501**	**11**	**0.42**	**0.6794**	**1.0000**	**0.05**	**-0.7996**	**1.1818**	**-2.4911**	**2.8733**
31	**33**	**-2.1401**	**0.4347**	**11**	**-4.92**	**0.0005**	**0.2402**	**0.05**	**-3.0969**	**-1.1832**	**-4.7306**	**0.4505**

Mixed run for Question 3
Average Total Speed

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ATS
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**4**	-103.8324153	1.08294662	1.179E-8
1	**0**	**2**	-104.5203511	0.01650900	5.519E-6
2	**0**	**1**	-104.5215046	0.00107943	1.467E-6
3	**0**	**1**	-104.5200205	0.00021432	5.784E-8
4	**0**	**1**	-104.5202598	0.00003345	1.497E-9
5	**0**	**1**	-104.5202164	0.00000610	2.338E-9
6	**0**	**0**	-104.5202238	0.00000038	2.508E-6
7	**0**	**0**	-104.520223	0.00000003	2.196E-6
8	**0**	**0**	-104.520223	0.00000000	2.223E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-104.52
Generalized Chi-Square	0.70
Gener. Chi-Square / DF	0.01

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.009230	0.007635
Residual	0.008731	0.001509

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.72	0.1704

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	1.8303	0.06732	11	27.19	<.0001
ave(26,27,29,30,31,33)	1.7019	0.04407	11	38.61	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	0.71	0.6819
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	2.55	0.1387

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean Standard Error Mean	Lower Mean	Upper Mean

14	1.7698	0.1068	11	16.57	<.0001	0.05	1.5347	2.0050	5.8699	0.6271	4.6400	7.4258
15	1.7798	0.1068	11	16.66	<.0001	0.05	1.5447	2.0149	5.9288	0.6334	4.6865	7.5003
16	1.9413	0.1340	11	14.49	<.0001	0.05	1.6463	2.2363	6.9677	0.9338	5.1878	9.3582
26	1.6072	0.1102	11	14.59	<.0001	0.05	1.3647	1.8497	4.9887	0.5497	3.9145	6.3579
27	1.7191	0.1068	11	16.09	<.0001	0.05	1.4839	1.9542	5.5794	0.5960	4.4103	7.0583
29	1.6750	0.1068	11	15.68	<.0001	0.05	1.4398	1.9101	5.3385	0.5703	4.2200	6.7536
30	1.6562	0.1102	11	15.03	<.0001	0.05	1.4137	1.8988	5.2396	0.5773	4.1113	6.6776
31	1.8307	0.1068	11	17.14	<.0001	0.05	1.5956	2.0658	6.2383	0.6664	4.9312	7.8919
33	1.7231	0.1068	11	16.13	<.0001	0.05	1.4879	1.9582	5.6016	0.5984	4.4279	7.0864

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
14	15	-0.00998	0.1511	11	-0.07	0.9485	1.0000	0.05	-0.3425	0.3225	-0.9103	0.8903
14	16	-0.1714	0.1714	11	-1.00	0.3386	1.0000	0.05	-0.5487	0.2058	-1.1927	0.8498
14	26	0.1627	0.1535	11	1.06	0.3119	1.0000	0.05	-0.1751	0.5004	-0.7518	1.0772
14	27	0.05076	0.1511	11	0.34	0.7432	1.0000	0.05	-0.2818	0.3833	-0.8495	0.9510
14	29	0.09488	0.1511	11	0.63	0.5428	1.0000	0.05	-0.2376	0.4274	-0.8054	0.9951
14	30	0.1136	0.1535	11	0.74	0.4747	1.0000	0.05	-0.2242	0.4514	-0.8009	1.0281
14	31	-0.06088	0.1511	11	-0.40	0.6947	1.0000	0.05	-0.3934	0.2716	-0.9611	0.8394
14	33	0.04679	0.1511	11	0.31	0.7626	1.0000	0.05	-0.2857	0.3793	-0.8535	0.9471
15	16	-0.1615	0.1714	11	-0.94	0.3664	1.0000	0.05	-0.5387	0.2158	-1.1827	0.8598
15	26	0.1726	0.1535	11	1.12	0.2846	1.0000	0.05	-0.1651	0.5104	-0.7419	1.0871
15	27	0.06074	0.1511	11	0.40	0.6953	1.0000	0.05	-0.2718	0.3933	-0.8395	0.9610
15	29	0.1049	0.1511	11	0.69	0.5020	1.0000	0.05	-0.2277	0.4374	-0.7954	1.0051
15	30	0.1236	0.1535	11	0.81	0.4377	1.0000	0.05	-0.2142	0.4614	-0.7909	1.0381
15	31	-0.05089	0.1511	11	-0.34	0.7426	1.0000	0.05	-0.3834	0.2816	-0.9512	0.8494
15	33	0.05677	0.1511	11	0.38	0.7142	1.0000	0.05	-0.2758	0.3893	-0.8435	0.9570
16	26	0.3341	0.1735	11	1.93	0.0804	1.0000	0.05	-0.04776	0.7160	-0.6997	1.3679
16	27	0.2222	0.1714	11	1.30	0.2213	1.0000	0.05	-0.1550	0.5994	-0.7991	1.2435
16	29	0.2663	0.1714	11	1.55	0.1485	1.0000	0.05	-0.1109	0.6435	-0.7549	1.2876
16	30	0.2850	0.1735	11	1.64	0.1286	1.0000	0.05	-0.09682	0.6669	-0.7488	1.3189
16	31	0.1106	0.1714	11	0.65	0.5320	1.0000	0.05	-0.2666	0.4878	-0.9107	1.1318
16	33	0.2182	0.1714	11	1.27	0.2291	1.0000	0.05	-0.1590	0.5955	-0.8030	1.2395
26	27	-0.1119	0.1535	11	-0.73	0.4812	1.0000	0.05	-0.4497	0.2259	-1.0264	0.8026
26	29	-0.06777	0.1535	11	-0.44	0.6673	1.0000	0.05	-0.4056	0.2700	-0.9823	0.8467
26	30	-0.04906	0.1558	11	-0.31	0.7588	1.0000	0.05	-0.3920	0.2939	-0.9776	0.8795
26	31	-0.2235	0.1535	11	-1.46	0.1732	1.0000	0.05	-0.5613	0.1143	-1.1380	0.6910

26	**33**	**-0.1159**	**0.1535**	**11**	**-0.75**	**0.4661**	**1.0000**	**0.05**	**-0.4536**	**0.2219**	**-1.0304**	**0.7986**
27	**29**	**0.04412**	**0.1511**	**11**	**0.29**	**0.7757**	**1.0000**	**0.05**	**-0.2884**	**0.3766**	**-0.8561**	**0.9444**
27	**30**	**0.06283**	**0.1535**	**11**	**0.41**	**0.6901**	**1.0000**	**0.05**	**-0.2749**	**0.4006**	**-0.8517**	**0.9773**
27	**31**	**-0.1116**	**0.1511**	**11**	**-0.74**	**0.4754**	**1.0000**	**0.05**	**-0.4442**	**0.2209**	**-1.0119**	**0.7886**
27	**33**	**-0.00397**	**0.1511**	**11**	**-0.03**	**0.9795**	**1.0000**	**0.05**	**-0.3365**	**0.3285**	**-0.9042**	**0.8963**
29	**30**	**0.01871**	**0.1535**	**11**	**0.12**	**0.9052**	**1.0000**	**0.05**	**-0.3191**	**0.3565**	**-0.8958**	**0.9332**
29	**31**	**-0.1558**	**0.1511**	**11**	**-1.03**	**0.3247**	**1.0000**	**0.05**	**-0.4883**	**0.1768**	**-1.0560**	**0.7445**
29	**33**	**-0.04810**	**0.1511**	**11**	**-0.32**	**0.7562**	**1.0000**	**0.05**	**-0.3806**	**0.2844**	**-0.9484**	**0.8522**
30	**31**	**-0.1745**	**0.1535**	**11**	**-1.14**	**0.2798**	**1.0000**	**0.05**	**-0.5122**	**0.1633**	**-1.0890**	**0.7400**
30	**33**	**-0.06681**	**0.1535**	**11**	**-0.44**	**0.6718**	**1.0000**	**0.05**	**-0.4046**	**0.2710**	**-0.9813**	**0.8477**
31	**33**	**0.1077**	**0.1511**	**11**	**0.71**	**0.4909**	**1.0000**	**0.05**	**-0.2249**	**0.4402**	**-0.7926**	**1.0079**

Mixed run for Question 3
Average Speed off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ASOR
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**0**	-70.45807526	0.30874832	4.054739
1	**0**	**0**	-70.20092723	0.00200571	3.941964
2	**0**	**0**	-70.19701791	0.00000006	3.94196
3	**0**	**0**	-70.19701781	0.00000000	3.94196

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-70.20
Generalized Chi-Square	1.21
Gener. Chi-Square / DF	0.02

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Residual	0.01516	0.002397

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	6.08	0.0015

Estimates

Label	Estimate	Standard Error	DF	t Value	Pr > |t|
ave(14,15,16)	1.3003	0.05027	11	25.87	<.0001
ave(26,27,29,30,31,33)	1.1903	0.02649	11	44.93	<.0001

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	8	11	5.07	0.0078
ave(14,15,16) vs ave(26,27,29,30,31,33)	1	11	3.74	0.0791

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
14	**1.3700**	**0.06156**	**11**	**22.25**	**<.0001**	**0.05**	**1.2345**	**1.5055**	**3.9352**	**0.2423**	**3.4366**	**4.5063**
15	**1.2963**	**0.06156**	**11**	**21.06**	**<.0001**	**0.05**	**1.1608**	**1.4318**	**3.6557**	**0.2251**	**3.1924**	**4.1862**
16	**1.2345**	**0.1231**	**11**	**10.03**	**<.0001**	**0.05**	**0.9635**	**1.5055**	**3.4367**	**0.4231**	**2.6209**	**4.5064**
26	**1.0954**	**0.07109**	**11**	**15.41**	**<.0001**	**0.05**	**0.9390**	**1.2519**	**2.9904**	**0.2126**	**2.5573**	**3.4969**

27	1.4664	0.06156	11	23.82	<.0001	0.05	1.3309	1.6019	4.3334	0.2668	3.7843	4.9622
29	1.1177	0.06156	11	18.16	<.0001	0.05	0.9822	1.2532	3.0578	0.1882	2.6703	3.5015
30	1.2044	0.07109	11	16.94	<.0001	0.05	1.0480	1.3609	3.3349	0.2371	2.8519	3.8997
31	1.0134	0.06156	11	16.46	<.0001	0.05	0.8779	1.1489	2.7550	0.1696	2.4059	3.1548
33	1.2445	0.06156	11	20.21	<.0001	0.05	1.1090	1.3800	3.4711	0.2137	3.0313	3.9748

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
14	15	0.07368	0.08706	11	0.85	0.4154	1.0000	0.05	-0.1179	0.2653	-0.4451	0.5925
14	16	0.1355	0.1377	11	0.98	0.3462	1.0000	0.05	-0.1675	0.4385	-0.6848	0.9558
14	26	0.2746	0.09404	11	2.92	0.0139	1.0000	0.05	0.06758	0.4815	-0.2858	0.8349
14	27	-0.09639	0.08706	11	-1.11	0.2919	1.0000	0.05	-0.2880	0.09524	-0.6152	0.4224
14	29	0.2523	0.08706	11	2.90	0.0145	1.0000	0.05	0.06065	0.4439	-0.2665	0.7711
14	30	0.1655	0.09404	11	1.76	0.1061	1.0000	0.05	-0.04144	0.3725	-0.3948	0.7259
14	31	0.3565	0.08706	11	4.10	0.0018	0.9364	0.05	0.1649	0.5482	-0.1623	0.8753
14	33	0.1255	0.08706	11	1.44	0.1774	1.0000	0.05	-0.06614	0.3171	-0.3933	0.6443
15	16	0.06178	0.1377	11	0.45	0.6623	1.0000	0.05	-0.2412	0.3648	-0.7585	0.8821
15	26	0.2009	0.09404	11	2.14	0.0560	1.0000	0.05	-0.00610	0.4079	-0.3595	0.7612
15	27	-0.1701	0.08706	11	-1.95	0.0767	1.0000	0.05	-0.3617	0.02156	-0.6889	0.3487
15	29	0.1786	0.08706	11	2.05	0.0648	1.0000	0.05	-0.01303	0.3702	-0.3402	0.6974
15	30	0.09185	0.09404	11	0.98	0.3497	1.0000	0.05	-0.1151	0.2988	-0.4685	0.6522
15	31	0.2829	0.08706	11	3.25	0.0077	1.0000	0.05	0.09124	0.4745	-0.2359	0.8017
15	33	0.05180	0.08706	11	0.59	0.5639	1.0000	0.05	-0.1398	0.2434	-0.4670	0.5706
16	26	0.1391	0.1422	11	0.98	0.3489	1.0000	0.05	-0.1738	0.4520	-0.7081	0.9863
16	27	-0.2319	0.1377	11	-1.68	0.1203	1.0000	0.05	-0.5348	0.07113	-1.0521	0.5884
16	29	0.1168	0.1377	11	0.85	0.4142	1.0000	0.05	-0.1862	0.4198	-0.7035	0.9371
16	30	0.03007	0.1422	11	0.21	0.8364	1.0000	0.05	-0.2829	0.3430	-0.8171	0.8773
16	31	0.2211	0.1377	11	1.61	0.1366	1.0000	0.05	-0.08190	0.5241	-0.5992	1.0414
16	33	-0.00998	0.1377	11	-0.07	0.9435	1.0000	0.05	-0.3130	0.2930	-0.8303	0.8103
26	27	-0.3709	0.09404	11	-3.94	0.0023	1.0000	0.05	-0.5779	-0.1640	-0.9313	0.1894
26	29	-0.02228	0.09404	11	-0.24	0.8171	1.0000	0.05	-0.2293	0.1847	-0.5826	0.5381
26	30	-0.1090	0.1005	11	-1.08	0.3014	1.0000	0.05	-0.3303	0.1122	-0.7081	0.4900
26	31	0.08199	0.09404	11	0.87	0.4019	1.0000	0.05	-0.1250	0.2890	-0.4784	0.6424
26	33	-0.1491	0.09404	11	-1.59	0.1412	1.0000	0.05	-0.3560	0.05791	-0.7094	0.4113
27	29	0.3487	0.08706	11	4.00	0.0021	1.0000	0.05	0.1570	0.5403	-0.1701	0.8675
27	30	0.2619	0.09404	11	2.79	0.0177	1.0000	0.05	0.05494	0.4689	-0.2984	0.8223
27	31	0.4529	0.08706	11	5.20	0.0003	0.1549	0.05	0.2613	0.6446	-0.06587	0.9717

27	**33**	**0.2219**	**0.08706**	**11**	**2.55**	**0.0271**	**1.0000**	**0.05**	**0.03025**	**0.4135**	**-0.2969**	**0.7407**
29	**30**	**-0.08674**	**0.09404**	**11**	**-0.92**	**0.3761**	**1.0000**	**0.05**	**-0.2937**	**0.1202**	**-0.6471**	**0.4736**
29	**31**	**0.1043**	**0.08706**	**11**	**1.20**	**0.2562**	**1.0000**	**0.05**	**-0.08735**	**0.2959**	**-0.4145**	**0.6231**
29	**33**	**-0.1268**	**0.08706**	**11**	**-1.46**	**0.1732**	**1.0000**	**0.05**	**-0.3184**	**0.06483**	**-0.6456**	**0.3920**
30	**31**	**0.1910**	**0.09404**	**11**	**2.03**	**0.0671**	**1.0000**	**0.05**	**-0.01597**	**0.3980**	**-0.3694**	**0.7514**
30	**33**	**-0.04005**	**0.09404**	**11**	**-0.43**	**0.6784**	**1.0000**	**0.05**	**-0.2470**	**0.1669**	**-0.6004**	**0.5203**
31	**33**	**-0.2311**	**0.08706**	**11**	**-2.65**	**0.0224**	**1.0000**	**0.05**	**-0.4227**	**-0.03944**	**-0.7499**	**0.2877**

Mixed run for Question 4
%of Training Time Spent Moving

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctTTMove
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2

Optimization Information

Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	110.55116681	2.00000000	45.47742
1	**0**	**5**	124.48949849	2.00000000	43.28187
2	**0**	**3**	126.00411064	0.01551018	42.9832
3	**0**	**1**	126.02838748	0.00024664	42.97501
4	**0**	**1**	126.02839857	0.00003664	42.9754
5	**0**	**0**	126.02839857	0.00000000	42.9754

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	126.03
Generalized Chi-Square	80.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Scale	102.35	16.3405

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	2.39	0.0632

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	0.79	0.5779

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	-2.4802	0.1842	11	-13.46	<.0001	0.05	-2.8856	-2.0748	0.07726	0.01313	0.05287	0.1116
2	-2.1684	0.1871	11	-11.59	<.0001	0.05	-2.5803	-1.7565	0.1026	0.01723	0.07042	0.1472

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
3	-2.6133	0.1592	11	-16.41	<.0001	0.05	-2.9638	-2.2629	0.06829	0.01013	0.04909	0.09424
4	-2.3699	0.1244	11	-19.05	<.0001	0.05	-2.6436	-2.0961	0.08550	0.009725	0.06638	0.1095
5	-2.5254	0.2656	11	-9.51	<.0001	0.05	-3.1098	-1.9409	0.07410	0.01822	0.04270	0.1255
6	-2.2973	0.2414	11	-9.52	<.0001	0.05	-2.8286	-1.7659	0.09135	0.02004	0.05580	0.1461

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	-0.3118	0.2626	11	-1.19	0.2601	1.0000	0.05	-0.8898	0.2662	-1.8766	1.2530
1	**3**	0.1331	0.2435	11	0.55	0.5954	1.0000	0.05	-0.4028	0.6690	-1.3177	1.5840
1	**4**	-0.1103	0.2223	11	-0.50	0.6293	1.0000	0.05	-0.5995	0.3789	-1.4348	1.2141
1	**5**	0.04517	0.3232	11	0.14	0.8914	1.0000	0.05	-0.6662	0.7565	-1.8807	1.9710
1	**6**	-0.1829	0.3037	11	-0.60	0.5591	1.0000	0.05	-0.8513	0.4855	-1.9925	1.6267
2	**3**	0.4449	0.2457	11	1.81	0.0975	1.0000	0.05	-0.09587	0.9857	-1.0192	1.9091
2	**4**	0.2014	0.2247	11	0.90	0.3892	1.0000	0.05	-0.2931	0.6960	-1.1376	1.5404
2	**5**	0.3570	0.3249	11	1.10	0.2953	1.0000	0.05	-0.3581	1.0720	-1.5789	2.2928
2	**6**	0.1289	0.3055	11	0.42	0.6812	1.0000	0.05	-0.5435	0.8012	-1.6914	1.9491
3	**4**	-0.2435	0.2020	11	-1.21	0.2534	1.0000	0.05	-0.6882	0.2012	-1.4474	0.9604
3	**5**	-0.08797	0.3096	11	-0.28	0.7816	1.0000	0.05	-0.7694	0.5935	-1.9330	1.7570
3	**6**	-0.3161	0.2892	11	-1.09	0.2978	1.0000	0.05	-0.9526	0.3205	-2.0394	1.4072
4	**5**	0.1555	0.2932	11	0.53	0.6064	1.0000	0.05	-0.4899	0.8009	-1.5918	1.9029
4	**6**	-0.07258	0.2716	11	-0.27	0.7942	1.0000	0.05	-0.6703	0.5252	-1.6909	1.5457
5	**6**	-0.2281	0.3589	11	-0.64	0.5381	1.0000	0.05	-1.0180	0.5618	-2.3667	1.9105

Mixed run for Question 4
%of Moving Time Spent off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctMovOff
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0

Optimization Information

Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**8**	66.208084517	0.32842052	0.000011
1	**0**	**5**	68.868503978	0.02237429	0.001261
2	**0**	**3**	68.903908489	0.00080354	1.663E-6
3	**0**	**1**	68.903715747	0.00001781	5.954E-7
4	**0**	**0**	68.903712171	0.00000000	9.85E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	68.90
Generalized Chi-Square	80.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.05202	0.06066
Scale	90.2115	16.0884

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	3.35	0.0186

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	2.91	0.0648

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	-1.2056	0.2108	11	-5.72	0.0001	0.05	-1.6695	-0.7417	0.2305	0.03738	0.1585	0.3226
2	-0.9944	0.2656	11	-3.74	0.0032	0.05	-1.5790	-0.4098	0.2700	0.05236	0.1709	0.3990
3	-1.9869	0.2108	11	-9.42	<.0001	0.05	-2.4510	-1.5229	0.1206	0.02236	0.07937	0.1790
4	-1.0537	0.1832	11	-5.75	0.0001	0.05	-1.4570	-0.6504	0.2585	0.03512	0.1889	0.3429
5	-1.4105	0.2467	11	-5.72	0.0001	0.05	-1.9534	-0.8675	0.1962	0.03890	0.1242	0.2958
6	-1.5295	0.2519	11	-6.07	<.0001	0.05	-2.0840	-0.9750	0.1781	0.03687	0.1107	0.2739

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	-0.2112	0.3391	11	-0.62	0.5462	1.0000	0.05	-0.9575	0.5352	-2.2318	1.8095
1	**3**	0.7813	0.2981	11	2.62	0.0238	1.0000	0.05	0.1252	1.4375	-0.9952	2.5579
1	**4**	-0.1519	0.2793	11	-0.54	0.5974	1.0000	0.05	-0.7666	0.4628	-1.8161	1.5123
1	**5**	0.2049	0.3245	11	0.63	0.5406	1.0000	0.05	-0.5093	0.9190	-1.7286	2.1384
1	**6**	0.3239	0.3285	11	0.99	0.3452	1.0000	0.05	-0.3990	1.0469	-1.6334	2.2813
2	**3**	0.9925	0.3391	11	2.93	0.0138	1.0000	0.05	0.2461	1.7389	-1.0284	3.0134
2	**4**	0.05929	0.3227	11	0.18	0.8576	1.0000	0.05	-0.6509	0.7695	-1.8636	1.9822
2	**5**	0.4160	0.3625	11	1.15	0.2754	1.0000	0.05	-0.3818	1.2139	-1.7441	2.5762
2	**6**	0.5351	0.3661	11	1.46	0.1718	1.0000	0.05	-0.2707	1.3409	-1.6464	2.7166
3	**4**	-0.9332	0.2793	11	-3.34	0.0066	1.0000	0.05	-1.5480	-0.3184	-2.5977	0.7313
3	**5**	-0.5765	0.3245	11	-1.78	0.1033	1.0000	0.05	-1.2907	0.1378	-2.5102	1.3573
3	**6**	-0.4574	0.3285	11	-1.39	0.1913	1.0000	0.05	-1.1804	0.2657	-2.4150	1.5002
4	**5**	0.3568	0.3073	11	1.16	0.2702	1.0000	0.05	-0.3196	1.0331	-1.4743	2.1878
4	**6**	0.4758	0.3115	11	1.53	0.1549	1.0000	0.05	-0.2098	1.1614	-1.3804	2.3321
5	**6**	0.1191	0.3526	11	0.34	0.7420	1.0000	0.05	-0.6570	0.8951	-1.9820	2.2201

Mixed run for Question 4
Total Distance Travled

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	TDTlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-26.30013391	
1	2	-32.50892609	0.00000034
2	1	-32.50895681	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.02451	0.01772	1.38	0.0833	0.05	0.008650	0.2174
Residual	0.02133	0.003630	5.88	<.0001	0.05	0.01569	0.03071

Fit Statistics

-2 Res Log Likelihood	-32.5
AIC (smaller is better)	-28.5
AICC (smaller is better)	-28.4
BIC (smaller is better)	-24.9

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.51	0.2390

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	0.60	0.7041

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**1**	5.3217	0.1368	11	38.90	<.0001	0.05	5.0206	5.6228
PLTNo	**2**	5.3680	0.1778	11	30.19	<.0001	0.05	4.9766	5.7594
PLTNo	**3**	5.1407	0.1271	11	40.46	<.0001	0.05	4.8610	5.4204
PLTNo	**4**	5.2462	0.1227	11	42.74	<.0001	0.05	4.9761	5.5164
PLTNo	**5**	5.0800	0.1514	11	33.55	<.0001	0.05	4.7468	5.4132
PLTNo	**6**	5.1136	0.1514	11	33.78	<.0001	0.05	4.7804	5.4469

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**1**	**2**	-0.04629	0.2244	11	-0.21	0.8403	Bonferroni	1.0000	0.05	-0.5401	0.4475	-1.3832	1.2906
PLTNo	**1**	**3**	0.1810	0.1867	11	0.97	0.3531	Bonferroni	1.0000	0.05	-0.2299	0.5919	-0.9316	1.2936
PLTNo	**1**	**4**	0.07548	0.1838	11	0.41	0.6892	Bonferroni	1.0000	0.05	-0.3290	0.4800	-1.0197	1.1707
PLTNo	**1**	**5**	0.2417	0.2040	11	1.18	0.2612	Bonferroni	1.0000	0.05	-0.2074	0.6908	-0.9742	1.4576
PLTNo	**1**	**6**	0.2080	0.2040	11	1.02	0.3298	Bonferroni	1.0000	0.05	-0.2411	0.6572	-1.0079	1.4239
PLTNo	**2**	**3**	0.2273	0.2186	11	1.04	0.3207	Bonferroni	1.0000	0.05	-0.2537	0.7083	-1.0751	1.5297

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	2	4	0.1218	0.2161	11	0.56	0.5843	Bonferroni	1.0000	0.05	-0.3538	0.5973	-1.1658	1.4093
PLTNo	2	5	0.2880	0.2335	11	1.23	0.2432	Bonferroni	1.0000	0.05	-0.2260	0.8020	-1.1037	1.6797
PLTNo	2	6	0.2543	0.2335	11	1.09	0.2994	Bonferroni	1.0000	0.05	-0.2597	0.7684	-1.1373	1.6460
PLTNo	3	4	-0.1055	0.1767	11	-0.60	0.5624	Bonferroni	1.0000	0.05	-0.4944	0.2833	-1.1583	0.9472
PLTNo	3	5	0.06070	0.1977	11	0.31	0.7645	Bonferroni	1.0000	0.05	-0.3743	0.4957	-1.1171	1.2385
PLTNo	3	6	0.02704	0.1977	11	0.14	0.8937	Bonferroni	1.0000	0.05	-0.4080	0.4621	-1.1508	1.2049
PLTNo	4	5	0.1662	0.1949	11	0.85	0.4119	Bonferroni	1.0000	0.05	-0.2628	0.5952	-0.9952	1.3276
PLTNo	4	6	0.1326	0.1949	11	0.68	0.5105	Bonferroni	1.0000	0.05	-0.2964	0.5615	-1.0289	1.2940
PLTNo	5	6	-0.03366	0.2141	11	-0.16	0.8779	Bonferroni	1.0000	0.05	-0.5049	0.4376	-1.3095	1.2422

Mixed run for Question 4
Total Distance Travled

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.11828594	**Variance**	0.01399156
Skewness	-0.1929877	**Kurtosis**	2.663393
Uncorrected SS	1.56705504	**Corrected SS**	1.56705504
Coeff Variation	.	**Std Error Mean**	0.0111274

Basic Statistical Measures

Location		Variability	
Mean	0.000000	**Std Deviation**	0.11829
Median	0.002427	**Variance**	0.01399
Mode	0.000000	**Range**	0.81924
		Interquartile Range	0.10309

Tests for Location: Mu0=0

Test	Statistic		p Value	
Student's t	**t**	0	**Pr > |t|**	1.0000

Tests for Location: Mu0=0

Test		Statistic		p Value
Sign	M	2.5	Pr >= |M|	0.7044
Signed Rank	S	136.5	Pr >= |S|	0.6899

Tests for Normality

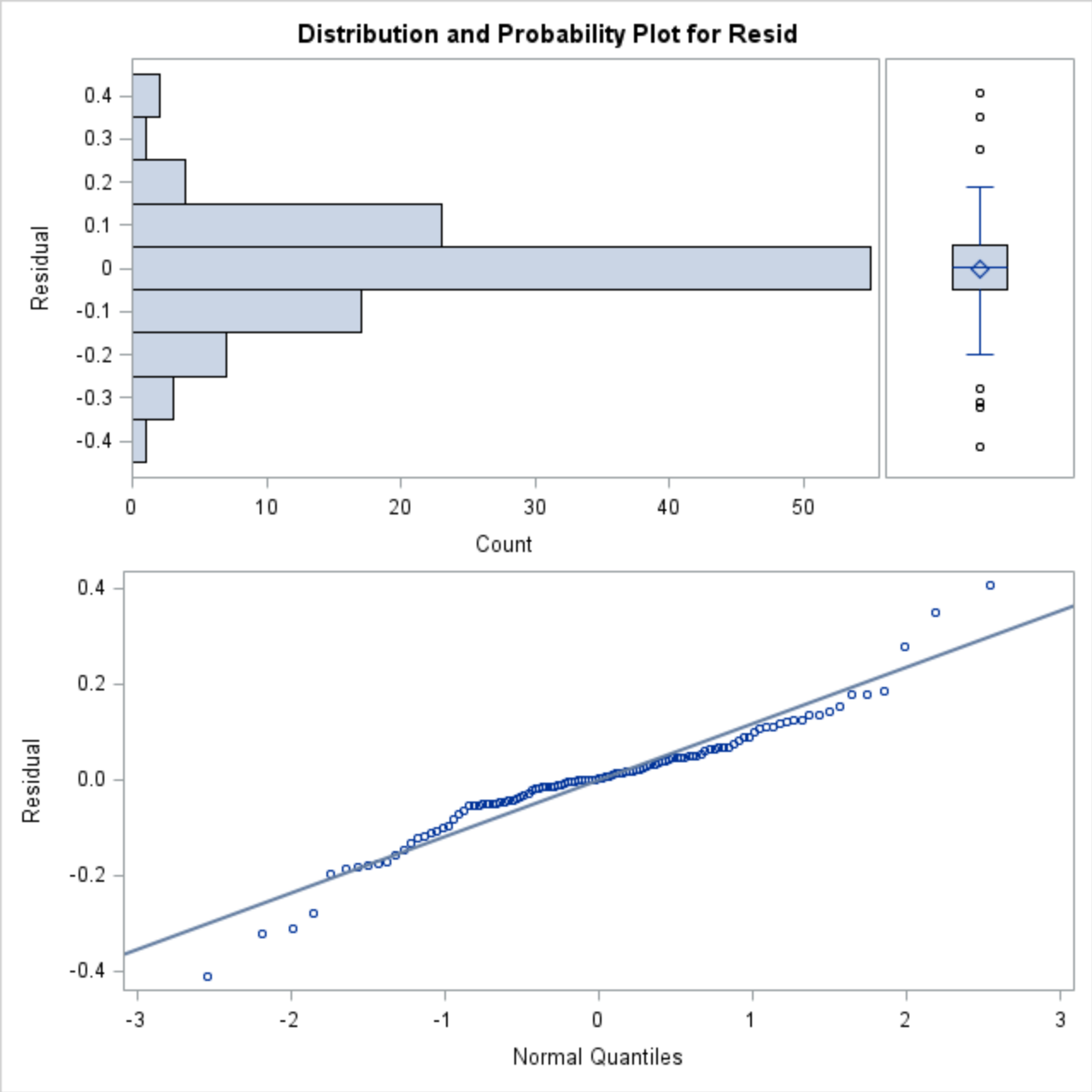
Test		Statistic		p Value
Shapiro-Wilk	W	0.946038	Pr < W	0.0002
Kolmogorov-Smirnov	D	0.128083	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.349218	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	1.967801	Pr > A-Sq	<0.0050

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.40680059
99%	0.35063308
95%	0.17693938
90%	0.12359961
75% Q3	0.05336120
50% Median	0.00242699
25% Q1	-0.04973365
10%	-0.14552316
5%	-0.18676272
1%	-0.32270884
0% Min	-0.41244175

Extreme Observations

Lowest		Highest	
Value	Obs	Value	Obs
-0.412442	78	0.177436	47
-0.322709	72	0.186763	99
-0.312070	98	0.276720	73
-0.278232	39	0.350633	49
-0.198794	50	0.406801	52



Mixed run for Question 4

Distance Travled off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	DTORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	23.54842795	
1	3	23.21811538	0.00009073
2	1	23.21224071	0.00000048
3	1	23.21221076	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.006593	0.01344	0.49	0.3118	0.05	0.000945	10709
Residual	0.04752	0.007834	6.07	<.0001	0.05	0.03526	0.06757

Fit Statistics

-2 Res Log Likelihood	23.2
AIC (smaller is better)	27.2
AICC (smaller is better)	27.4
BIC (smaller is better)	30.8

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	4.93	0.0038

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	4.79	0.0143

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**1**	4.2712	0.1259	11	33.92	<.0001	0.05	3.9940	4.5484
PLTNo	**2**	4.3824	0.1498	11	29.26	<.0001	0.05	4.0528	4.7121
PLTNo	**3**	3.6843	0.1072	11	34.38	<.0001	0.05	3.4484	3.9202
PLTNo	**4**	4.2231	0.09681	11	43.62	<.0001	0.05	4.0100	4.4362
PLTNo	**5**	3.9192	0.1645	11	23.83	<.0001	0.05	3.5571	4.2812
PLTNo	**6**	3.9255	0.1645	11	23.86	<.0001	0.05	3.5634	4.2875

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**1**	**2**	-0.1112	0.1957	11	-0.57	0.5812	Bonferroni	1.0000	0.05	-0.5420	0.3195	-1.2773	1.0549
PLTNo	**1**	**3**	0.5869	0.1654	11	3.55	0.0046	Bonferroni	1.0000	0.05	0.2229	0.9509	-0.3985	1.5723
PLTNo	**1**	**4**	0.04806	0.1588	11	0.30	0.7679	Bonferroni	1.0000	0.05	-0.3016	0.3977	-0.8985	0.9946
PLTNo	**1**	**5**	0.3520	0.2072	11	1.70	0.1174	Bonferroni	1.0000	0.05	-0.1040	0.8080	-0.8825	1.5865
PLTNo	**1**	**6**	0.3457	0.2072	11	1.67	0.1233	Bonferroni	1.0000	0.05	-0.1103	0.8017	-0.8888	1.5802
PLTNo	**2**	**3**	0.6981	0.1842	11	3.79	0.0030	Bonferroni	1.0000	0.05	0.2928	1.1035	-0.3993	1.7956
PLTNo	**2**	**4**	0.1593	0.1783	11	0.89	0.3909	Bonferroni	1.0000	0.05	-0.2332	0.5518	-0.9035	1.2221
PLTNo	**2**	**5**	0.4632	0.2225	11	2.08	0.0615	Bonferroni	1.0000	0.05	-0.02641	0.9529	-0.8624	1.7889

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**2**	**6**	0.4570	0.2225	11	2.05	0.0645	Bonferroni	1.0000	0.05	-0.03269	0.9466	-0.8687	1.7827
PLTNo	**3**	**4**	-0.5388	0.1444	11	-3.73	0.0033	Bonferroni	1.0000	0.05	-0.8567	-0.2210	-1.3994	0.3218
PLTNo	**3**	**5**	-0.2349	0.1963	11	-1.20	0.2567	Bonferroni	1.0000	0.05	-0.6670	0.1972	-1.4048	0.9350
PLTNo	**3**	**6**	-0.2412	0.1963	11	-1.23	0.2449	Bonferroni	1.0000	0.05	-0.6733	0.1909	-1.4111	0.9287
PLTNo	**4**	**5**	0.3039	0.1909	11	1.59	0.1396	Bonferroni	1.0000	0.05	-0.1162	0.7241	-0.8334	1.4413
PLTNo	**4**	**6**	0.2977	0.1909	11	1.56	0.1472	Bonferroni	1.0000	0.05	-0.1224	0.7178	-0.8397	1.4351
PLTNo	**5**	**6**	-0.00628	0.2326	11	-0.03	0.9789	Bonferroni	1.0000	0.05	-0.5183	0.5057	-1.3925	1.3800

Mixed run for Question 4
Distance Travled off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.18216742	**Variance**	0.03318497
Skewness	-0.8457152	**Kurtosis**	2.21132822
Uncorrected SS	3.71671643	**Corrected SS**	3.71671643
Coeff Variation	.	**Std Error Mean**	0.01713687

Basic Statistical Measures

Location		Variability	
Mean	0.000000	**Std Deviation**	0.18217
Median	0.004977	**Variance**	0.03318
Mode	.	**Range**	1.16338
		Interquartile Range	0.17446

Tests for Location: Mu0=0

Test		Statistic	p Value	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	6	**Pr >= |M|**	0.2986
Signed Rank	**S**	292.5	**Pr >= |S|**	0.3982

Tests for Normality

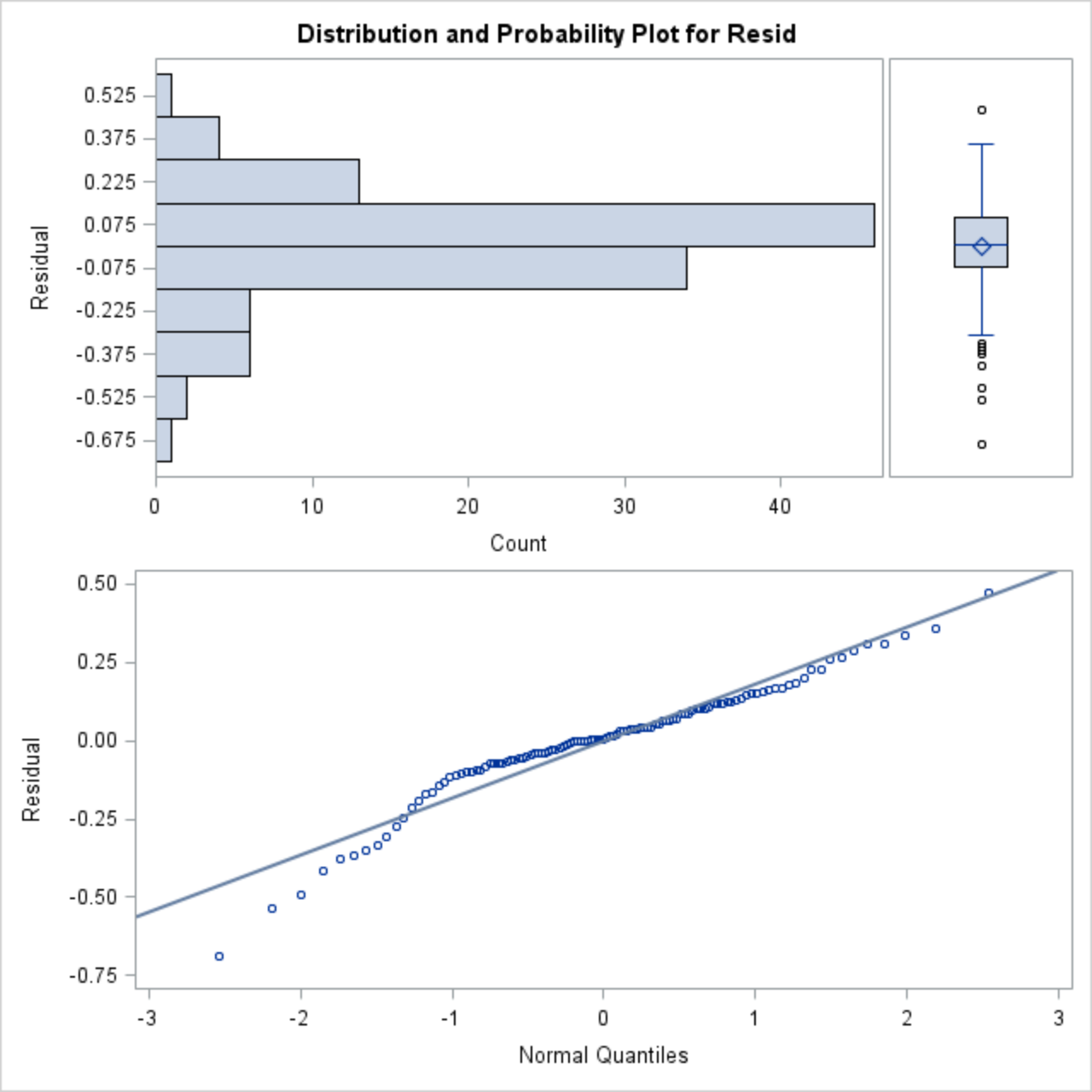
Test		Statistic		p Value
Shapiro-Wilk	**W**	0.944847	**Pr < W**	0.0002
Kolmogorov-Smirnov	**D**	0.119956	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.342186	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	1.985116	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.47292006
99%	0.35917805
95%	0.28928936
90%	0.18133024
75% Q3	0.10371488
50% Median	0.00497671
25% Q1	-0.07074593
10%	-0.21203949
5%	-0.36482156
1%	-0.53731757
0% Min	-0.69046267

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.690463	98	0.306314	52
-0.537318	72	0.306794	9
-0.491707	39	0.337103	47
-0.413902	10	0.359178	95
-0.375679	89	0.472920	73



Mixed run for Question 4

Average Total Speed

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	ATSlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-238.37547795	
1	2	-241.37924739	0.00085176
2	1	-241.57038852	0.00007076
3	1	-241.58494794	0.00000064
4	1	-241.58507343	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0.001722	0.001397	1.23	0.1088	0.05	0.000556	0.02329

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
Residual	0.001569	0.000271	5.79	<.0001	0.05	0.001149	0.002272

Fit Statistics

-2 Res Log Likelihood	-241.6
AIC (smaller is better)	-237.6
AICC (smaller is better)	-237.4
BIC (smaller is better)	-234.0

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.76	0.1591

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	0.49	0.7744

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**1**	0.8601	0.03653	11	23.54	<.0001	0.05	0.7796	0.9405
PLTNo	**2**	0.8221	0.04738	11	17.35	<.0001	0.05	0.7178	0.9264
PLTNo	**3**	0.8481	0.03387	11	25.04	<.0001	0.05	0.7736	0.9227
PLTNo	**4**	0.7912	0.03268	11	24.21	<.0001	0.05	0.7193	0.8631
PLTNo	**5**	0.8400	0.04057	11	20.71	<.0001	0.05	0.7507	0.9293
PLTNo	**6**	0.8254	0.04057	11	20.35	<.0001	0.05	0.7362	0.9147

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**1**	**2**	0.03793	0.05983	11	0.63	0.5391	Bonferroni	1.0000	0.05	-0.09376	0.1696	-0.3186	0.3945
PLTNo	**1**	**3**	0.01194	0.04982	11	0.24	0.8150	Bonferroni	1.0000	0.05	-0.09770	0.1216	-0.2849	0.3088
PLTNo	**1**	**4**	0.06883	0.04901	11	1.40	0.1878	Bonferroni	1.0000	0.05	-0.03905	0.1767	-0.2232	0.3609
PLTNo	**1**	**5**	0.02003	0.05459	11	0.37	0.7207	Bonferroni	1.0000	0.05	-0.1001	0.1402	-0.3053	0.3453
PLTNo	**1**	**6**	0.03461	0.05459	11	0.63	0.5390	Bonferroni	1.0000	0.05	-0.08554	0.1548	-0.2907	0.3599
PLTNo	**2**	**3**	-0.02598	0.05824	11	-0.45	0.6641	Bonferroni	1.0000	0.05	-0.1542	0.1022	-0.3730	0.3211

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	2	4	0.03090	0.05756	11	0.54	0.6020	Bonferroni	1.0000	0.05	-0.09578	0.1576	-0.3121	0.3739
PLTNo	2	5	-0.01790	0.06238	11	-0.29	0.7795	Bonferroni	1.0000	0.05	-0.1552	0.1194	-0.3896	0.3538
PLTNo	2	6	-0.00331	0.06238	11	-0.05	0.9586	Bonferroni	1.0000	0.05	-0.1406	0.1340	-0.3750	0.3684
PLTNo	3	4	0.05689	0.04706	11	1.21	0.2521	Bonferroni	1.0000	0.05	-0.04669	0.1605	-0.2235	0.3373
PLTNo	3	5	0.008084	0.05284	11	0.15	0.8812	Bonferroni	1.0000	0.05	-0.1082	0.1244	-0.3068	0.3230
PLTNo	3	6	0.02267	0.05284	11	0.43	0.6762	Bonferroni	1.0000	0.05	-0.09364	0.1390	-0.2922	0.3376
PLTNo	4	5	-0.04880	0.05209	11	-0.94	0.3689	Bonferroni	1.0000	0.05	-0.1634	0.06585	-0.3592	0.2616
PLTNo	4	6	-0.03421	0.05209	11	-0.66	0.5248	Bonferroni	1.0000	0.05	-0.1489	0.08043	-0.3446	0.2762
PLTNo	5	6	0.01459	0.05737	11	0.25	0.8040	Bonferroni	1.0000	0.05	-0.1117	0.1409	-0.3273	0.3564

Mixed run for Question 4
Average Total Speed

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.03210572	**Variance**	0.00103078
Skewness	0.75282805	**Kurtosis**	1.98781932
Uncorrected SS	0.11544702	**Corrected SS**	0.11544702
Coeff Variation	.	**Std Error Mean**	0.00302025

Basic Statistical Measures

Location		Variability	
Mean	0.00000	**Std Deviation**	0.03211
Median	-0.00087	**Variance**	0.00103
Mode	-0.00000	**Range**	0.19056
		Interquartile Range	0.02455

Tests for Location: Mu0=0

Test	Statistic		p Value	
Student's t	**t**	0	**Pr > |t|**	1.0000

Tests for Location: Mu0=0

Test		Statistic		p Value
Sign	**M**	-6.5	**Pr >= |M|**	0.2589
Signed Rank	**S**	-321.5	**Pr >= |S|**	0.3593

Tests for Normality

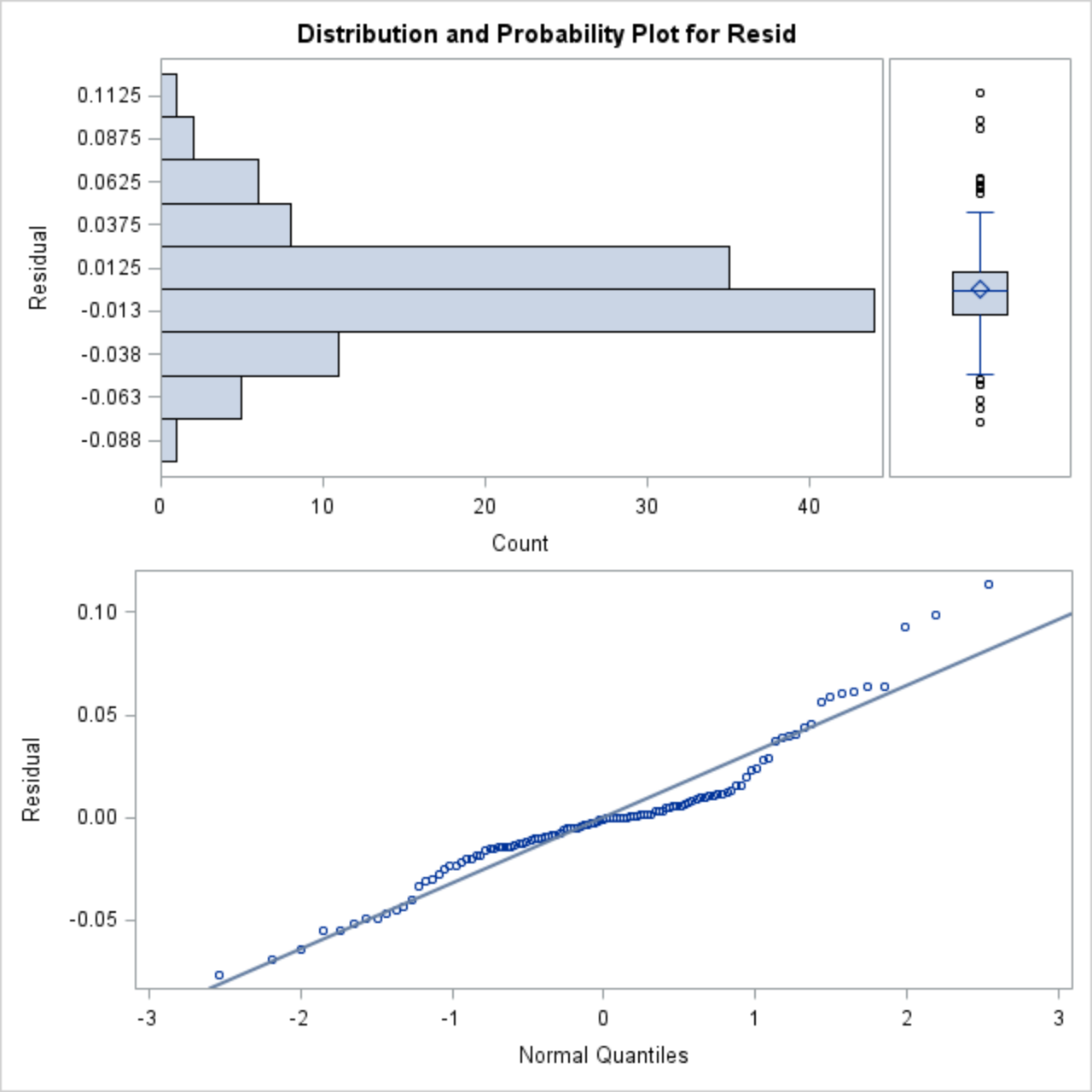
Test		Statistic		p Value
Shapiro-Wilk	**W**	0.934691	**Pr < W**	<0.0001
Kolmogorov-Smirnov	**D**	0.152839	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.553438	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	2.820869	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.113675338
99%	0.098290565
95%	0.060936563
90%	0.040257404
75% Q3	0.010049607
50% Median	-0.000871691
25% Q1	-0.014495570
10%	-0.040140680
5%	-0.051897997
1%	-0.068993663
0% Min	-0.076887752

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.0768878	73	0.0637188	112
-0.0689937	19	0.0641151	20
-0.0645071	95	0.0932330	72
-0.0553955	1	0.0982906	10
-0.0553123	92	0.1136753	98



Mixed run for Question 4

Average Speed off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	ASORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	34
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-206.01425035	
1	1	-206.01425035	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(PLTNo)	0	.	.	.	.	.	.
Residual	0.002776	0.000439	6.32	<.0001	0.05	0.002083	0.003885

Fit Statistics

Fit Statistics

-2 Res Log Likelihood	-206.0
AIC (smaller is better)	-204.0
AICC (smaller is better)	-204.0
BIC (smaller is better)	-202.2

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	6.31	0.0013

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	1.29	0.3343

Least Squares Means

Effect	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
PLTNo	**1**	0.4299	0.02634	11	16.32	<.0001	0.05	0.3719	0.4879
PLTNo	**2**	0.4146	0.03042	11	13.63	<.0001	0.05	0.3476	0.4815
PLTNo	**3**	0.3533	0.02151	11	16.42	<.0001	0.05	0.3059	0.4006
PLTNo	**4**	0.3745	0.01863	11	20.10	<.0001	0.05	0.3335	0.4155
PLTNo	**5**	0.3983	0.03725	11	10.69	<.0001	0.05	0.3163	0.4803
PLTNo	**6**	0.3872	0.03725	11	10.39	<.0001	0.05	0.3052	0.4692

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
PLTNo	**1**	**2**	0.01532	0.04024	11	0.38	0.7106	Bonferroni	1.0000	0.05	-0.07325	0.1039	-0.2245	0.2551
PLTNo	**1**	**3**	0.07662	0.03401	11	2.25	0.0456	Bonferroni	1.0000	0.05	0.001770	0.1515	-0.1260	0.2793
PLTNo	**1**	**4**	0.05543	0.03226	11	1.72	0.1138	Bonferroni	1.0000	0.05	-0.01558	0.1264	-0.1368	0.2477
PLTNo	**1**	**5**	0.03161	0.04563	11	0.69	0.5028	Bonferroni	1.0000	0.05	-0.06881	0.1320	-0.2403	0.3035
PLTNo	**1**	**6**	0.04268	0.04563	11	0.94	0.3697	Bonferroni	1.0000	0.05	-0.05774	0.1431	-0.2292	0.3146
PLTNo	**2**	**3**	0.06130	0.03725	11	1.65	0.1281	Bonferroni	1.0000	0.05	-0.02070	0.1433	-0.1607	0.2833
PLTNo	**2**	**4**	0.04011	0.03567	11	1.12	0.2847	Bonferroni	1.0000	0.05	-0.03839	0.1186	-0.1724	0.2527
PLTNo	**2**	**5**	0.01629	0.04810	11	0.34	0.7412	Bonferroni	1.0000	0.05	-0.08957	0.1221	-0.2703	0.3029
PLTN	**2**	**6**	0.02736	0.04810	11	0.57	0.580	Bonferroni	1.000	0.05	-	0.1332	-	0.314

Differences of Least Squares Means

Effect	PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
o							9		0		0.07850		0.2592	0
PLTNo	3	4	-0.02119	0.02845	11	-0.74	0.4721	Bonferroni	1.0000	0.05	-0.08382	0.04144	-0.1907	0.1484
PLTNo	3	5	-0.04501	0.04302	11	-1.05	0.3179	Bonferroni	1.0000	0.05	-0.1397	0.04967	-0.3013	0.2113
PLTNo	3	6	-0.03394	0.04302	11	-0.79	0.4468	Bonferroni	1.0000	0.05	-0.1286	0.06074	-0.2903	0.2224
PLTNo	4	5	-0.02382	0.04165	11	-0.57	0.5789	Bonferroni	1.0000	0.05	-0.1155	0.06785	-0.2720	0.2244
PLTNo	4	6	-0.01275	0.04165	11	-0.31	0.7652	Bonferroni	1.0000	0.05	-0.1044	0.07892	-0.2610	0.2354
PLTNo	5	6	0.01107	0.05269	11	0.21	0.8374	Bonferroni	1.0000	0.05	-0.1049	0.1270	-0.3029	0.3250

Mixed run for Question 4
Average Speed off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.04452763	**Variance**	0.00198271
Skewness	0.34863605	**Kurtosis**	0.71198088
Uncorrected SS	0.22206346	**Corrected SS**	0.22206346
Coeff Variation	.	**Std Error Mean**	0.00418881

Basic Statistical Measures

Location		Variability	
Mean	0	**Std Deviation**	0.04453
Median	2.22E-16	**Variance**	0.00198
Mode	.	**Range**	0.24251
		Interquartile Range	0.05197

Tests for Location: Mu0=0

Test	Statistic		p Value	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	1.5	**Pr >= |M|**	0.8509
Signed Rank	**S**	-62.5	**Pr >= |S|**	0.8588

Tests for Normality

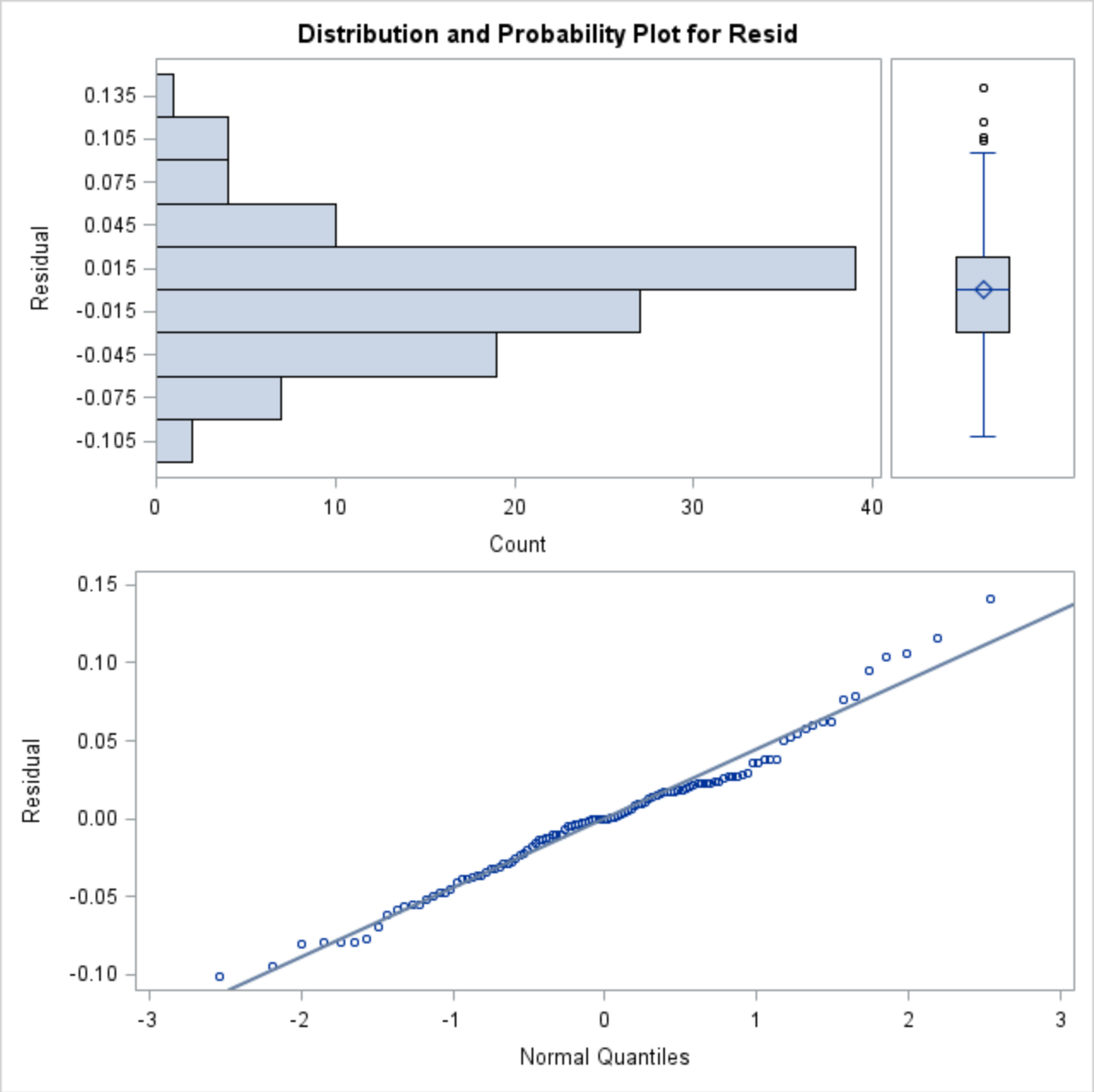
Test		Statistic		p Value
Shapiro-Wilk	**W**	0.979833	**Pr < W**	0.0858
Kolmogorov-Smirnov	**D**	0.085227	**Pr > D**	0.0429
Cramer-von Mises	**W-Sq**	0.109019	**Pr > W-Sq**	0.0875
Anderson-Darling	**A-Sq**	0.682817	**Pr > A-Sq**	0.0767

Quantiles (Definition 5)

Quantile	Estimate
100% Max	0.1407496
99%	0.1162069
95%	0.0789372
90%	0.0542222
75% Q3	0.0230829
50% Median	0.0000000
25% Q1	-0.0288873
10%	-0.0554263
5%	-0.0792241
1%	-0.0951276
0% Min	-0.1017639

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.1017639	92	0.0952329	86
-0.0951276	39	0.1036196	91
-0.0807315	11	0.1064194	75
-0.0799748	13	0.1162069	10
-0.0795641	105	0.1407496	103



Mixed run for Question 4
%off Road time with Turing Radius less than 30m

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ORTTR
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked

Model Information

Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**2**	-0.648253783	0.12113683	104.6996
1	**0**	**1**	-0.446617934	0.00165994	104.2631
2	**0**	**0**	-0.44607549	0.00000000	104.2605

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-0.45
Generalized Chi-Square	80.00

Fit Statistics

Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Scale	117.41	18.7217

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	6.22	0.0014

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	1.86	0.1819

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	0.5940	0.09598	11	6.19	<.0001	0.05	0.3828	0.8053	0.6443	0.02200	0.5945	0.6911
2	0.5885	0.1107	11	5.31	0.0002	0.05	0.3447	0.8322	0.6430	0.02542	0.5853	0.6968
3	0.9012	0.08278	11	10.89	<.0001	0.05	0.7190	1.0834	0.7112	0.01700	0.6724	0.7471
4	0.8285	0.07064	11	11.73	<.0001	0.05	0.6731	0.9840	0.6960	0.01494	0.6622	0.7279
5	0.7912	0.1403	11	5.64	0.0002	0.05	0.4825	1.0999	0.6881	0.03010	0.6183	0.7502
6	0.7916	0.1403	11	5.64	0.0002	0.05	0.4829	1.1004	0.6882	0.03010	0.6184	0.7503

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	0.005558	0.1465	11	0.04	0.9704	1.0000	0.05	-0.3170	0.3281	-0.8677	0.8788
1	**3**	-0.3072	0.1268	11	-2.42	0.0338	1.0000	0.05	-0.5862	-0.02820	-1.0625	0.4481
1	**4**	-0.2345	0.1192	11	-1.97	0.0748	1.0000	0.05	-0.4968	0.02780	-0.9447	0.4756
1	**5**	-0.1972	0.1700	11	-1.16	0.2706	1.0000	0.05	-0.5713	0.1769	-1.2100	0.8156
1	**6**	-0.1976	0.1700	11	-1.16	0.2696	1.0000	0.05	-0.5717	0.1765	-1.2105	0.8153
2	**3**	-0.3127	0.1383	11	-2.26	0.0449	1.0000	0.05	-0.6171	-0.00842	-1.1366	0.5112
2	**4**	-0.2401	0.1314	11	-1.83	0.0948	1.0000	0.05	-0.5292	0.04905	-1.0228	0.5427
2	**5**	-0.2027	0.1787	11	-1.13	0.2807	1.0000	0.05	-0.5961	0.1906	-1.2677	0.8622
2	**6**	-0.2032	0.1787	11	-1.14	0.2798	1.0000	0.05	-0.5965	0.1902	-1.2682	0.8618
3	**4**	0.07268	0.1088	11	0.67	0.5180	1.0000	0.05	-0.1668	0.3122	-0.5758	0.7212
3	**5**	0.1100	0.1629	11	0.68	0.5134	1.0000	0.05	-0.2485	0.4685	-0.8606	1.0806

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
3	**6**	0.1096	0.1629	11	0.67	0.5150	1.0000	0.05	-0.2489	0.4681	-0.8610	1.0802
4	**5**	0.03732	0.1571	11	0.24	0.8165	1.0000	0.05	-0.3083	0.3830	-0.8985	0.9732
4	**6**	0.03690	0.1571	11	0.23	0.8186	1.0000	0.05	-0.3088	0.3826	-0.8990	0.9728
5	**6**	-0.00042	0.1984	11	-0.00	0.9983	1.0000	0.05	-0.4371	0.4362	-1.1825	1.1817

Mixed run for Question 4
Total Distance Travled

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	TDT
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1

Optimization Information

Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	110.74194034	2.00000000	7.085E-8
1	**0**	**5**	92.89707586	0.34904183	6.488E-6
2	**0**	**4**	93.944964829	0.17519470	5.695E-8
3	**0**	**4**	94.120384366	0.02493056	2.228E-8
4	**0**	**2**	94.078672996	0.01164962	1.15E-6
5	**0**	**2**	94.1084775	0.00447363	2.556E-7
6	**0**	**1**	94.100867274	0.00199333	4.369E-6
7	**0**	**1**	94.106246954	0.00080726	1.586E-6
8	**0**	**1**	94.104846989	0.00035847	1.47E-7
9	**0**	**1**	94.105816738	0.00014600	5.189E-8
10	**0**	**1**	94.105558683	0.00006474	5.015E-9
11	**0**	**1**	94.105733676	0.00002640	1.185E-9
12	**0**	**1**	94.105686179	0.00001170	3.18E-10
13	**0**	**1**	94.105717765	0.00000478	8.31E-10
14	**0**	**0**	94.105709029	0.00000211	4.438E-6
15	**0**	**0**	94.105715392	0.00000014	1.977E-6
16	**0**	**0**	94.105714415	0.00000008	2.364E-6
17	**0**	**0**	94.10571499	0.00000001	2.137E-6
18	**0**	**0**	94.105714899	0.00000001	2.173E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	94.11
Generalized Chi-Square	8.31
Gener. Chi-Square / DF	0.10

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.1193	0.08636
Residual	0.1039	0.01768

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.58	0.2111

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	0.65	0.6693

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	12.2646	0.3018	11	40.64	<.0001	0.05	11.6004	12.9288	212049	63992	109137	412001
2	12.3603	0.3923	11	31.51	<.0001	0.05	11.4969	13.2237	233346	91536	98409	553308
3	11.8600	0.2803	11	42.31	<.0001	0.05	11.2430	12.4769	141486	39659	76344	262210
4	12.0881	0.2708	11	44.64	<.0001	0.05	11.4922	12.6841	177749	48128	97946	322571
5	11.6980	0.3340	11	35.02	<.0001	0.05	10.9628	12.4331	120325	40189	57688	250970
6	11.7751	0.3340	11	35.25	<.0001	0.05	11.0400	12.5102	129976	43412	62315	271099

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	-0.09571	0.4949	11	-0.19	0.8502	1.0000	0.05	-1.1850	0.9936	-3.0449	2.8535
1	**3**	0.4046	0.4119	11	0.98	0.3470	1.0000	0.05	-0.5019	1.3111	-2.0497	2.8589
1	**4**	0.1764	0.4054	11	0.44	0.6718	1.0000	0.05	-0.7159	1.0688	-2.2396	2.5925
1	**5**	0.5666	0.4501	11	1.26	0.2342	1.0000	0.05	-0.4241	1.5574	-2.1157	3.2490
1	**6**	0.4895	0.4501	11	1.09	0.3001	1.0000	0.05	-0.5013	1.4802	-2.1929	3.1718
2	**3**	0.5003	0.4821	11	1.04	0.3217	1.0000	0.05	-0.5608	1.5615	-2.3727	3.3733
2	**4**	0.2722	0.4766	11	0.57	0.5795	1.0000	0.05	-0.7769	1.3213	-2.5682	3.1125
2	**5**	0.6623	0.5152	11	1.29	0.2250	1.0000	0.05	-0.4716	1.7963	-2.4077	3.7324
2	**6**	0.5852	0.5152	11	1.14	0.2802	1.0000	0.05	-0.5488	1.7191	-2.4849	3.6553
3	**4**	-0.2282	0.3897	11	-0.59	0.5701	1.0000	0.05	-1.0859	0.6296	-2.5505	2.0942
3	**5**	0.1620	0.4360	11	0.37	0.7173	1.0000	0.05	-0.7977	1.1217	-2.4363	2.7603
3	**6**	0.08485	0.4360	11	0.19	0.8493	1.0000	0.05	-0.8749	1.0446	-2.5135	2.6832
4	**5**	0.3902	0.4300	11	0.91	0.3836	1.0000	0.05	-0.5562	1.3365	-2.1720	2.9523
4	**6**	0.3130	0.4300	11	0.73	0.4818	1.0000	0.05	-0.6333	1.2594	-2.2491	2.8752
5	**6**	-0.07715	0.4724	11	-0.16	0.8732	1.0000	0.05	-1.1168	0.9625	-2.8919	2.7376

Mixed run for Question 4
Distance Travled off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	DTOR
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1

Optimization Information

Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**5**	153.57551837	1.08937058	2.54E-6
1	**0**	**5**	119.99891093	0.57801020	6.807E-6
2	**0**	**3**	123.83309344	0.11037092	7.825E-6
3	**0**	**3**	124.18246324	0.02798512	1.804E-7
4	**0**	**2**	124.11414595	0.00934460	0.000021
5	**0**	**2**	124.14130514	0.00339592	8.558E-6
6	**0**	**2**	124.1323467	0.00116752	1.003E-6
7	**0**	**2**	124.13560426	0.00041524	1.273E-7
8	**0**	**2**	124.13447847	0.00014502	1.551E-8
9	**0**	**2**	124.13487853	0.00005123	1.936E-9
10	**0**	**1**	124.13473855	0.00002212	0.000017
11	**0**	**1**	124.13478942	0.00001339	0.00001
12	**0**	**1**	124.13476724	0.00000694	5.245E-6
13	**0**	**1**	124.13477912	0.00000360	2.721E-6
14	**0**	**0**	124.13477307	0.00000018	6.1E-6
15	**0**	**0**	124.13477555	0.00000002	5.103E-6
16	**0**	**0**	124.13477533	0.00000000	5.24E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	124.13
Generalized Chi-Square	13.06
Gener. Chi-Square / DF	0.16

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.05368	0.06362
Residual	0.1633	0.02717

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	5.08	0.0033

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	4.63	0.0161

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	9.8658	0.2686	11	36.73	<.0001	0.05	9.2746	10.4570	19260	5173.55	10663	34787
2	10.1264	0.3288	11	30.80	<.0001	0.05	9.4027	10.8501	24994	8217.99	12121	51538
3	8.6400	0.2359	11	36.63	<.0001	0.05	8.1208	9.1592	5653.49	1333.58	3363.87	9501.54
4	9.7617	0.2191	11	44.56	<.0001	0.05	9.2795	10.2439	17356	3802.49	10716	28110
5	9.0787	0.3294	11	27.56	<.0001	0.05	8.3538	9.8036	8766.48	2887.35	4246.15	18099
6	9.0387	0.3294	11	27.44	<.0001	0.05	8.3138	9.7636	8422.86	2774.17	4079.72	17390

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	2	-0.2606	0.4246	11	-0.61	0.5518	1.0000	0.05	-1.1951	0.6739	-2.7906	2.2694
1	3	1.2258	0.3575	11	3.43	0.0056	1.0000	0.05	0.4389	2.0126	-0.9045	3.3560
1	4	0.1041	0.3466	11	0.30	0.7695	1.0000	0.05	-0.6588	0.8671	-1.9614	2.1697
1	5	0.7871	0.4250	11	1.85	0.0910	1.0000	0.05	-0.1483	1.7225	-1.7455	3.3197
1	6	0.8271	0.4250	11	1.95	0.0776	1.0000	0.05	-0.1084	1.7625	-1.7055	3.3597
2	3	1.4864	0.4047	11	3.67	0.0037	1.0000	0.05	0.5957	2.3770	-0.9250	3.8977
2	4	0.3647	0.3951	11	0.92	0.3758	1.0000	0.05	-0.5049	1.2343	-1.9897	2.7191
2	5	1.0477	0.4654	11	2.25	0.0458	1.0000	0.05	0.02340	2.0720	-1.7255	3.8209
2	6	1.0877	0.4654	11	2.34	0.0394	1.0000	0.05	0.06338	2.1120	-1.6855	3.8609
3	4	-1.1216	0.3219	11	-3.48	0.0051	1.0000	0.05	-1.8302	-0.4131	-3.0400	0.7967
3	5	-0.4387	0.4051	11	-1.08	0.3021	1.0000	0.05	-1.3303	0.4530	-2.8527	1.9754
3	6	-0.3987	0.4051	11	-0.98	0.3462	1.0000	0.05	-1.2903	0.4930	-2.8128	2.0154
4	5	0.6830	0.3956	11	1.73	0.1122	1.0000	0.05	-0.1877	1.5536	-1.6742	3.0402
4	6	0.7230	0.3956	11	1.83	0.0948	1.0000	0.05	-0.1477	1.5936	-1.6342	3.0802
5	6	0.03999	0.4658	11	0.09	0.9331	1.0000	0.05	-0.9852	1.0652	-2.7356	2.8156

Mixed run for Question 4
Average Total Speed

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ATS
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1

Dimensions

Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**4**	-103.8324153	1.08294662	1.179E-8
1	**0**	**2**	-104.5203511	0.01650900	5.519E-6
2	**0**	**1**	-104.5215046	0.00107943	1.467E-6
3	**0**	**1**	-104.5200205	0.00021432	5.784E-8
4	**0**	**1**	-104.5202598	0.00003345	1.497E-9
5	**0**	**1**	-104.5202164	0.00000610	2.338E-9
6	**0**	**0**	-104.5202238	0.00000038	2.508E-6
7	**0**	**0**	-104.520223	0.00000003	2.196E-6
8	**0**	**0**	-104.520223	0.00000000	2.223E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-104.52
Generalized Chi-Square	0.70
Gener. Chi-Square / DF	0.01

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0.009230	0.007635
Residual	0.008731	0.001509

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	1.72	0.1704

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	0.49	0.7770

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	1.9832	0.08511	11	23.30	<.0001	0.05	1.7959	2.1705	7.2660	0.6184	6.0248	8.7630
2	1.8958	0.1102	11	17.21	<.0001	0.05	1.6533	2.1383	6.6578	0.7336	5.2241	8.4850
3	1.9582	0.07877	11	24.86	<.0001	0.05	1.7848	2.1316	7.0866	0.5582	5.9586	8.4280
4	1.8247	0.07592	11	24.03	<.0001	0.05	1.6576	1.9918	6.2011	0.4708	5.2468	7.3290
5	1.9345	0.09476	11	20.41	<.0001	0.05	1.7259	2.1431	6.9207	0.6558	5.6178	8.5258
6	1.9007	0.09476	11	20.06	<.0001	0.05	1.6921	2.1093	6.6905	0.6340	5.4309	8.2421

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	0.08742	0.1392	11	0.63	0.5429	1.0000	0.05	-0.2190	0.3939	-0.7422	0.9170
1	**3**	0.02501	0.1160	11	0.22	0.8332	1.0000	0.05	-0.2302	0.2802	-0.6660	0.7160
1	**4**	0.1585	0.1141	11	1.39	0.1922	1.0000	0.05	-0.09255	0.4095	-0.5212	0.8381
1	**5**	0.04869	0.1274	11	0.38	0.7095	1.0000	0.05	-0.2317	0.3290	-0.7103	0.8077
1	**6**	0.08253	0.1274	11	0.65	0.5303	1.0000	0.05	-0.1978	0.3629	-0.6765	0.8415
2	**3**	-0.06241	0.1354	11	-0.46	0.6539	1.0000	0.05	-0.3605	0.2357	-0.8695	0.7447
2	**4**	0.07106	0.1338	11	0.53	0.6059	1.0000	0.05	-0.2234	0.3656	-0.7263	0.8684
2	**5**	-0.03873	0.1453	11	-0.27	0.7948	1.0000	0.05	-0.3586	0.2811	-0.9047	0.8273
2	**6**	-0.00489	0.1453	11	-0.03	0.9738	1.0000	0.05	-0.3248	0.3150	-0.8709	0.8611
3	**4**	0.1335	0.1094	11	1.22	0.2480	1.0000	0.05	-0.1073	0.3743	-0.5184	0.7854
3	**5**	0.02368	0.1232	11	0.19	0.8511	1.0000	0.05	-0.2475	0.2949	-0.7106	0.7580
3	**6**	0.05752	0.1232	11	0.47	0.6498	1.0000	0.05	-0.2137	0.3287	-0.6768	0.7918
4	**5**	-0.1098	0.1214	11	-0.90	0.3853	1.0000	0.05	-0.3770	0.1575	-0.8334	0.6138
4	**6**	-0.07595	0.1214	11	-0.63	0.5444	1.0000	0.05	-0.3432	0.1913	-0.7995	0.6476
5	**6**	0.03384	0.1340	11	0.25	0.8053	1.0000	0.05	-0.2611	0.3288	-0.7648	0.8324

Mixed run for Question 4
Average Speed off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ASOR
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
PLTNo	33	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	34
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**0**	-70.45807526	0.30874832	4.054739
1	**0**	**0**	-70.20092723	0.00200571	3.941964
2	**0**	**0**	-70.19701791	0.00000006	3.94196
3	**0**	**0**	-70.19701781	0.00000000	3.94196

Convergence criterion (PCONV=1.11022E-8) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-70.20
Generalized Chi-Square	1.21
Gener. Chi-Square / DF	0.02

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(PLTNo)	0	.
Residual	0.01516	0.002397

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
PLTNo	32	11	6.08	0.0015

Contrasts

Label	Num DF	Den DF	F Value	Pr > F
overall	5	11	1.11	0.4068

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	0.9932	0.06156	11	16.13	<.0001	0.05	0.8577	1.1287	2.6998	0.1662	2.3577	3.0915

PLTNo Least Squares Means

PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
2	0.9546	0.07109	11	13.43	<.0001	0.05	0.7982	1.1111	2.5977	0.1847	2.2214	3.0376
3	0.8273	0.05027	11	16.46	<.0001	0.05	0.7167	0.9379	2.2871	0.1150	2.0476	2.5547
4	0.8660	0.04353	11	19.89	<.0001	0.05	0.7702	0.9618	2.3775	0.1035	2.1603	2.6165
5	0.9184	0.08706	11	10.55	<.0001	0.05	0.7268	1.1100	2.5052	0.2181	2.0684	3.0344
6	0.8920	0.08706	11	10.25	<.0001	0.05	0.7004	1.0836	2.4400	0.2124	2.0145	2.9553

Differences of PLTNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

PLTNo	PLTNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	0.03856	0.09404	11	0.41	0.6897	1.0000	0.05	-0.1684	0.2455	-0.5218	0.5989
1	**3**	0.1659	0.07948	11	2.09	0.0609	1.0000	0.05	-0.00905	0.3408	-0.3077	0.6395
1	**4**	0.1271	0.07540	11	1.69	0.1199	1.0000	0.05	-0.03882	0.2931	-0.3222	0.5764
1	**5**	0.07478	0.1066	11	0.70	0.4977	1.0000	0.05	-0.1599	0.3095	-0.5606	0.7102
1	**6**	0.1012	0.1066	11	0.95	0.3630	1.0000	0.05	-0.1335	0.3359	-0.5342	0.7366
2	**3**	0.1273	0.08706	11	1.46	0.1716	1.0000	0.05	-0.06431	0.3189	-0.3915	0.6461
2	**4**	0.08858	0.08336	11	1.06	0.3107	1.0000	0.05	-0.09489	0.2720	-0.4081	0.5853
2	**5**	0.03623	0.1124	11	0.32	0.7533	1.0000	0.05	-0.2112	0.2836	-0.6335	0.7060
2	**6**	0.06263	0.1124	11	0.56	0.5886	1.0000	0.05	-0.1848	0.3100	-0.6071	0.7324
3	**4**	-0.03874	0.06650	11	-0.58	0.5719	1.0000	0.05	-0.1851	0.1076	-0.4350	0.3575
3	**5**	-0.09109	0.1005	11	-0.91	0.3843	1.0000	0.05	-0.3124	0.1302	-0.6902	0.5080
3	**6**	-0.06469	0.1005	11	-0.64	0.5331	1.0000	0.05	-0.2860	0.1566	-0.6638	0.5344
4	**5**	-0.05235	0.09734	11	-0.54	0.6014	1.0000	0.05	-0.2666	0.1619	-0.6324	0.5277
4	**6**	-0.02595	0.09734	11	-0.27	0.7947	1.0000	0.05	-0.2402	0.1883	-0.6060	0.5541
5	**6**	0.02640	0.1231	11	0.21	0.8341	1.0000	0.05	-0.2446	0.2974	-0.7073	0.7601

Mixed run for Question 8
%of Training Time Spent Moving

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctTTMove
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL

Model Information

Degrees of Freedom Method Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	6
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**7**	141.56359592	0.12442664	0.000786
1	**0**	**7**	156.06899808	0.12458599	0.000064
2	**0**	**5**	157.25417953	0.02481112	3.437E-7
3	**0**	**3**	157.39981045	0.00399366	1.95E-6
4	**0**	**3**	157.4187973	0.00059152	1.856E-6
5	**0**	**2**	157.42146429	0.00007500	6.312E-6
6	**0**	**2**	157.42179352	0.00001820	1.823E-6
7	**0**	**1**	157.42187875	0.00000076	7.974E-6
8	**0**	**0**	157.42188092	0.00000000	5.653E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	157.42
Generalized Chi-Square	108.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(VehNo)	0.04443	0.02779
Scale	94.5079	15.4880

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	2.24	0.0826

VehNo Least Squares Means

VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	-2.8211	0.09927	39	-28.42	<.0001	0.05	-3.0219	-2.6203	0.05619	0.005265	0.04645	0.06784
2	-2.8239	0.08910	39	-31.69	<.0001	0.05	-3.0041	-2.6437	0.05605	0.004714	0.04724	0.06638
3	-2.4838	0.1330	39	-18.68	<.0001	0.05	-2.7528	-2.2147	0.07701	0.009453	0.05993	0.09843
4	-3.2119	0.2551	39	-12.59	<.0001	0.05	-3.7278	-2.6959	0.03872	0.009495	0.02348	0.06322
5	-2.6478	0.1444	39	-18.33	<.0001	0.05	-2.9399	-2.3557	0.06613	0.008919	0.05022	0.08662

Differences of VehNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	0.002782	0.1334	39	0.02	0.9835	1.0000	0.05	-0.2670	0.2726	-0.3941	0.3997
1	**3**	-0.3374	0.1660	39	-2.03	0.0489	0.4891	0.05	-0.6731	-0.00169	-0.8312	0.1565
1	**4**	0.3907	0.2737	39	1.43	0.1614	1.0000	0.05	-0.1629	0.9444	-0.4238	1.2052
1	**5**	-0.1733	0.1753	39	-0.99	0.3287	1.0000	0.05	-0.5278	0.1811	-0.6948	0.3481
2	**3**	-0.3402	0.1601	39	-2.12	0.0400	0.3999	0.05	-0.6639	-0.01636	-0.8165	0.1362
2	**4**	0.3880	0.2702	39	1.44	0.1590	1.0000	0.05	-0.1586	0.9345	-0.4161	1.1920
2	**5**	-0.1761	0.1697	39	-1.04	0.3057	1.0000	0.05	-0.5194	0.1671	-0.6811	0.3288
3	**4**	0.7281	0.2877	39	2.53	0.0155	0.1552	0.05	0.1462	1.3100	-0.1279	1.5841
3	**5**	0.1640	0.1963	39	0.84	0.4085	1.0000	0.05	-0.2331	0.5611	-0.4202	0.7482
4	**5**	-0.5641	0.2931	39	-1.92	0.0616	0.6164	0.05	-1.1570	0.02885	-1.4363	0.3082

Mixed run for Question 8
%of Moving Time Spent off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	PctMovOff
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	6
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2

Optimization Information

Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**6**	116.07417602	0.04742535	0.004748
1	**0**	**4**	118.89721107	0.02199778	0.001652
2	**0**	**2**	118.90161972	0.00009801	1.196E-6
3	**0**	**1**	118.90123534	0.00000091	1.685E-6
4	**0**	**0**	118.90123337	0.00000000	2.157E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	118.90
Generalized Chi-Square	108.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(VehNo)	0.2173	0.05857
Scale	94.3543	16.1578

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	1.55	0.2059

VehNo Least Squares Means

VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	-1.6996	0.1460	39	-11.64	<.0001	0.05	-1.9950	-1.4042	0.1545	0.01908	0.1197	0.1971
2	-1.5504	0.1363	39	-11.37	<.0001	0.05	-1.8261	-1.2747	0.1750	0.01968	0.1387	0.2185
3	-1.4290	0.1933	39	-7.39	<.0001	0.05	-1.8200	-1.0381	0.1933	0.03013	0.1394	0.2615
4	-2.0616	0.2544	39	-8.10	<.0001	0.05	-2.5762	-1.5471	0.1129	0.02547	0.07069	0.1755
5	-1.3566	0.1947	39	-6.97	<.0001	0.05	-1.7505	-0.9627	0.2048	0.03171	0.1480	0.2763

Differences of VehNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	-0.1492	0.1998	39	-0.75	0.4596	1.0000	0.05	-0.5533	0.2549	-0.7436	0.4452
1	**3**	-0.2706	0.2423	39	-1.12	0.2708	1.0000	0.05	-0.7606	0.2194	-0.9915	0.4502
1	**4**	0.3620	0.2933	39	1.23	0.2246	1.0000	0.05	-0.2313	0.9553	-0.5109	1.2348
1	**5**	-0.3430	0.2434	39	-1.41	0.1667	1.0000	0.05	-0.8354	0.1493	-1.0673	0.3813
2	**3**	-0.1214	0.2365	39	-0.51	0.6106	1.0000	0.05	-0.5998	0.3570	-0.8252	0.5824
2	**4**	0.5112	0.2886	39	1.77	0.0843	0.8435	0.05	-0.07259	1.0949	-0.3476	1.3700
2	**5**	-0.1938	0.2377	39	-0.82	0.4198	1.0000	0.05	-0.6746	0.2870	-0.9011	0.5135
3	**4**	0.6326	0.3195	39	1.98	0.0548	0.5479	0.05	-0.01363	1.2788	-0.3181	1.5833
3	**5**	-0.07241	0.2744	39	-0.26	0.7933	1.0000	0.05	-0.6274	0.4826	-0.8888	0.7440
4	**5**	-0.7050	0.3204	39	-2.20	0.0338	0.3375	0.05	-1.3530	-0.05699	-1.6583	0.2483

Mixed run for Question 8
Total Distance Travled

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	TDTlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	6
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-20.89793441	
1	2	-38.78497278	0.00184534
2	1	-39.03139941	0.00009024
3	1	-39.04247512	0.00000025
4	1	-39.04250448	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(VehNo)	0.02541	0.009481	2.68	0.0037	0.05	0.01371	0.06231
Residual	0.02258	0.004045	5.58	<.0001	0.05	0.01636	0.03320

Fit Statistics

-2 Res Log Likelihood	-39.0
AIC (smaller is better)	-35.0
AICC (smaller is better)	-34.9
BIC (smaller is better)	-31.5

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	3.47	0.0161

Least Squares Means

Effect	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
VehNo	**1**	4.9686	0.05394	39	92.11	<.0001	0.05	4.8595	5.0777
VehNo	**2**	5.0205	0.04988	39	100.65	<.0001	0.05	4.9197	5.1214
VehNo	**3**	5.1943	0.07436	39	69.85	<.0001	0.05	5.0439	5.3447
VehNo	**4**	4.7587	0.09797	39	48.57	<.0001	0.05	4.5605	4.9568
VehNo	**5**	5.0683	0.07674	39	66.04	<.0001	0.05	4.9131	5.2235

Differences of Least Squares Means

Effect	VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
VehNo	**1**	**2**	-0.05193	0.07347	39	-0.71	0.4839	Bonferroni	1.0000	0.05	-0.2005	0.09668	-0.2705	0.1667
VehNo	**1**	**3**	-0.2257	0.09187	39	-2.46	0.0186	Bonferroni	0.1857	0.05	-0.4115	-0.03988	-0.4991	0.04766
VehNo	**1**	**4**	0.2099	0.1118	39	1.88	0.0680	Bonferroni	0.6798	0.05	-0.01627	0.4362	-0.1228	0.5427
VehNo	**1**	**5**	-0.09968	0.09380	39	-1.06	0.2945	Bonferroni	1.0000	0.05	-0.2894	0.09005	-0.3788	0.1794
VehNo	**2**	**3**	-0.1738	0.08954	39	-1.94	0.0596	Bonferroni	0.5955	0.05	-0.3549	0.007344	-0.4402	0.09267
VehNo	**2**	**4**	0.2619	0.1099	39	2.38	0.0222	Bonferroni	0.2219	0.05	0.03950	0.4842	-0.06526	0.5890
VehNo	**2**	**5**	-0.04776	0.09153	39	-0.52	0.6048	Bonferroni	1.0000	0.05	-0.2329	0.1374	-0.3201	0.2246
VehNo	**3**	**4**	0.4356	0.1230	39	3.54	0.0010	Bonferroni	0.0105	0.05	0.1869	0.6844	0.06966	0.8016
VehNo	**3**	**5**	0.1260	0.1069	39	1.18	0.2454	Bonferroni	1.0000	0.05	-0.09013	0.3422	-0.1920	0.4440
VehNo	**4**	**5**	-0.3096	0.1245	39	-2.49	0.0172	Bonferroni	0.1723	0.05	-0.5614	-0.05791	-0.6799	0.06068

Mixed run for Question 8
Total Distance Travled

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.12771504	**Variance**	0.01631113
Skewness	-0.3855885	**Kurtosis**	2.58186755
Uncorrected SS	1.82684665	**Corrected SS**	1.82684665
Coeff Variation	.	**Std Error Mean**	0.01201442

Basic Statistical Measures

Location		**Variability**	
Mean	0.000000	**Std Deviation**	0.12772
Median	0.023081	**Variance**	0.01631
Mode	.	**Range**	0.86439
		Interquartile Range	0.13008

Tests for Location: Mu0=0

Test		**Statistic**	**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	6.5	**Pr >= |M|**	0.2589
Signed Rank	**S**	289.5	**Pr >= |S|**	0.4093

Tests for Normality

Test		**Statistic**	**p Value**	
Shapiro-Wilk	**W**	0.939083	**Pr < W**	<0.0001
Kolmogorov-Smirnov	**D**	0.096299	**Pr > D**	0.0109
Cramer-von Mises	**W-Sq**	0.329872	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	2.049464	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

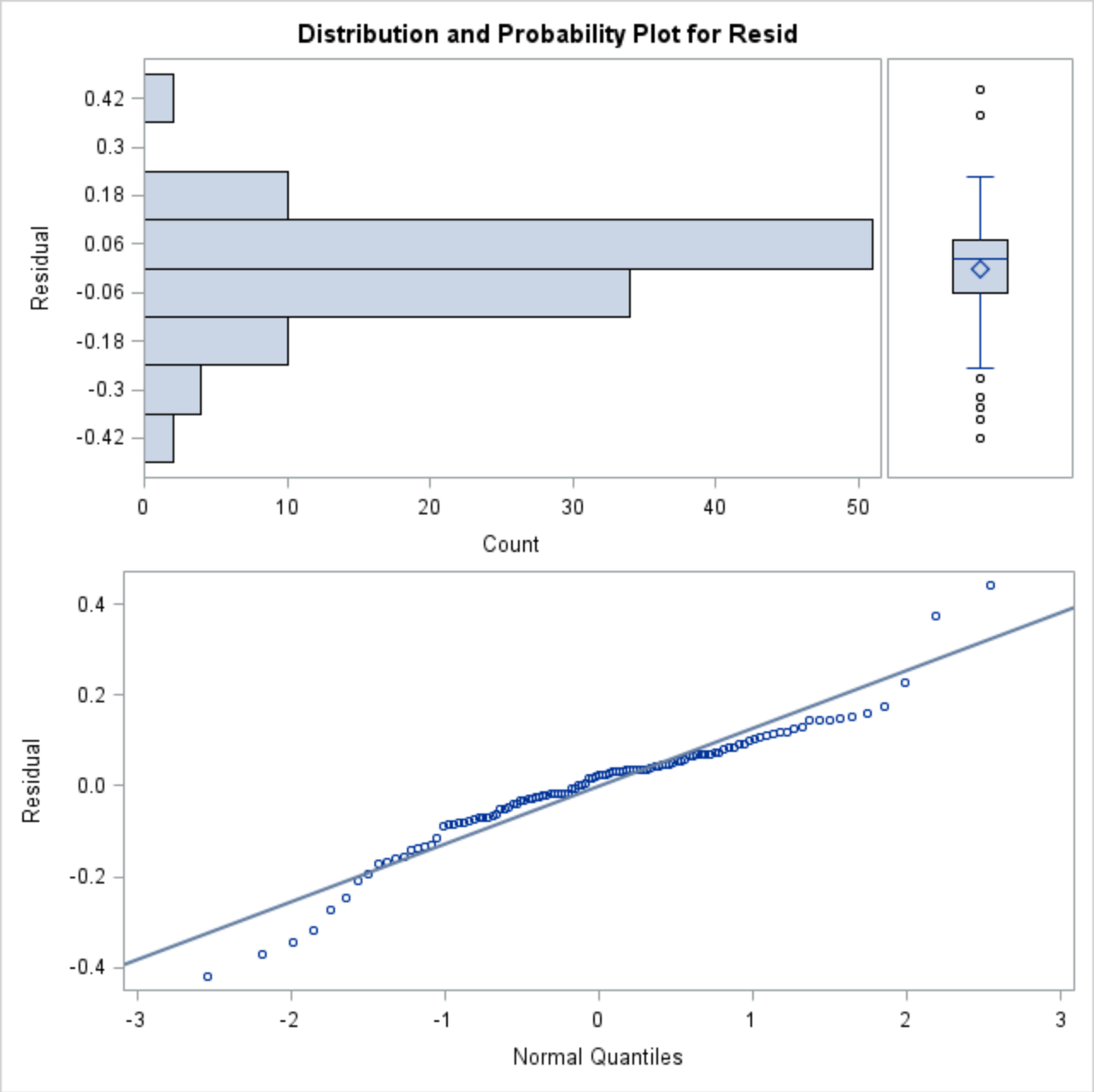
Quantile	**Estimate**
100% Max	0.4431897
99%	0.3763893
95%	0.1520062
90%	0.1251084
75% Q3	0.0694116
50% Median	0.0230812

Quantiles (Definition 5)

Quantile	Estimate
25% Q1	-0.0606716
10%	-0.1570969
5%	-0.2463257
1%	-0.3729927
0% Min	-0.4211980

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.421198	78	0.158921	47
-0.372993	72	0.174183	41
-0.343402	98	0.226436	73
-0.318419	94	0.376389	49
-0.272457	26	0.443190	52



Mixed run for Question 8 Distance Travled off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	DTORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	6
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	89.30304711	
1	2	54.18918843	0.00000111
2	1	54.18910805	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(VehNo)	0.07559	0.02312	3.27	0.0005	0.05	0.04492	0.1532
Residual	0.04941	0.008408	5.88	<.0001	0.05	0.03633	0.07112

Fit Statistics

Fit Statistics

-2 Res Log Likelihood	54.2
AIC (smaller is better)	58.2
AICC (smaller is better)	58.3
BIC (smaller is better)	61.8

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	2.10	0.0994

Least Squares Means

Effect	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
VehNo	**1**	3.9041	0.08983	39	43.46	<.0001	0.05	3.7224	4.0858
VehNo	**2**	3.9601	0.08359	39	47.37	<.0001	0.05	3.7910	4.1291
VehNo	**3**	4.0256	0.1226	39	32.84	<.0001	0.05	3.7777	4.2736
VehNo	**4**	3.4868	0.1581	39	22.05	<.0001	0.05	3.1670	3.8066
VehNo	**5**	3.9028	0.1259	39	30.99	<.0001	0.05	3.6481	4.1575

Differences of Least Squares Means

Effect	VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
VehNo	**1**	**2**	-0.05595	0.1227	39	-0.46	0.6510	Bonferroni	1.0000	0.05	-0.3041	0.1923	-0.4211	0.3092
VehNo	**1**	**3**	-0.1215	0.1520	39	-0.80	0.4287	Bonferroni	1.0000	0.05	-0.4289	0.1859	-0.5737	0.3307
VehNo	**1**	**4**	0.4174	0.1819	39	2.30	0.0272	Bonferroni	0.2720	0.05	0.04952	0.7852	-0.1238	0.9585
VehNo	**1**	**5**	0.001339	0.1547	39	0.01	0.9931	Bonferroni	1.0000	0.05	-0.3115	0.3142	-0.4589	0.4616
VehNo	**2**	**3**	-0.06558	0.1484	39	-0.44	0.6609	Bonferroni	1.0000	0.05	-0.3657	0.2345	-0.5071	0.3759
VehNo	**2**	**4**	0.4733	0.1789	39	2.65	0.0117	Bonferroni	0.1167	0.05	0.1115	0.8351	-0.05889	1.0055
VehNo	**2**	**5**	0.05729	0.1511	39	0.38	0.7067	Bonferroni	1.0000	0.05	-0.2484	0.3630	-0.3924	0.5070
VehNo	**3**	**4**	0.5389	0.2001	39	2.69	0.0104	Bonferroni	0.1037	0.05	0.1342	0.9435	-0.05643	1.1342
VehNo	**3**	**5**	0.1229	0.1757	39	0.70	0.4886	Bonferroni	1.0000	0.05	-0.2326	0.4783	-0.4000	0.6458
VehNo	**4**	**5**	-0.4160	0.2021	39	-2.06	0.0463	Bonferroni	0.4630	0.05	-0.8249	-0.00717	-1.0175	0.1854

Mixed run for Question 8
Distance Travled off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.18628291	**Variance**	0.03470132
Skewness	-1.2253099	**Kurtosis**	2.57715919
Uncorrected SS	3.886548	**Corrected SS**	3.886548
Coeff Variation	.	**Std Error Mean**	0.01752402

Basic Statistical Measures

Location		**Variability**	
Mean	0.000000	**Std Deviation**	0.18628
Median	0.024057	**Variance**	0.03470
Mode	.	**Range**	1.12580
		Interquartile Range	0.16431

Tests for Location: Mu0=0

Test		**Statistic**	**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	7.5	**Pr >= |M|**	0.1876
Signed Rank	**S**	490.5	**Pr >= |S|**	0.1609

Tests for Normality

Test		**Statistic**	**p Value**	
Shapiro-Wilk	**W**	0.91633	**Pr < W**	<0.0001
Kolmogorov-Smirnov	**D**	0.143146	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.500885	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	2.866586	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

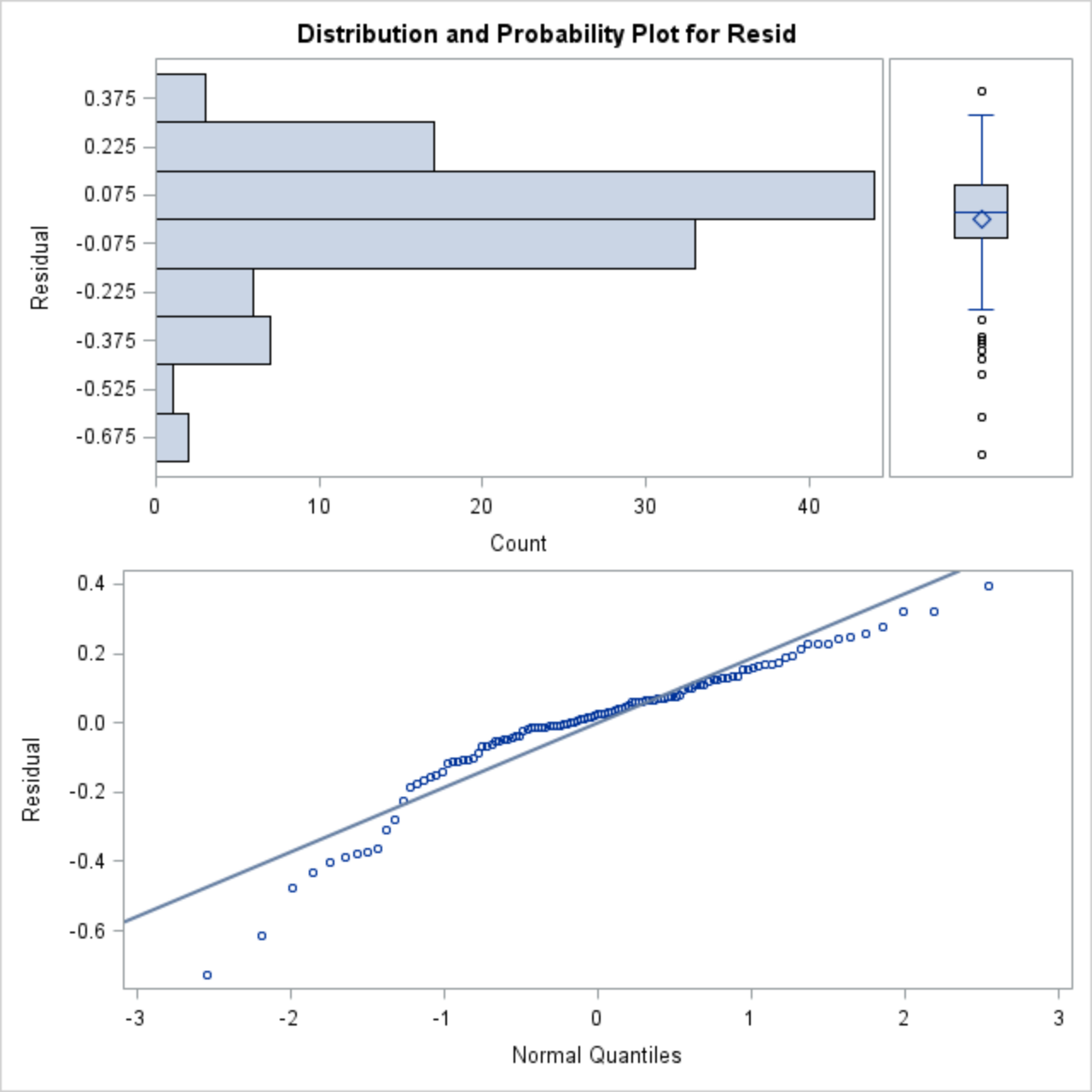
Quantile	**Estimate**
100% Max	0.3969826
99%	0.3222150
95%	0.2488618
90%	0.1921111
75% Q3	0.1090057
50% Median	0.0240566

Quantiles (Definition 5)

Quantile	Estimate
25% Q1	-0.0553030
10%	-0.2237715
5%	-0.3870551
1%	-0.6132551
0% Min	-0.7288200

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.728820	98	0.255185	107
-0.613255	72	0.274716	40
-0.477110	39	0.320821	95
-0.430760	46	0.322215	52
-0.405009	104	0.396983	73



Mixed run for Question 8 Average Total Speed

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	ATSlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	6
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-299.99930935	
1	2	-324.40377290	0.00012991
2	1	-324.43961494	0.00000102
3	1	-324.43988414	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(VehNo)	0.001884	0.000636	2.96	0.0015	0.05	0.001069	0.004169
Residual	0.001585	0.000273	5.80	<.0001	0.05	0.001162	0.002293

Fit Statistics

-2 Res Log Likelihood	-324.4
AIC (smaller is better)	-320.4
AICC (smaller is better)	-320.3
BIC (smaller is better)	-316.9

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	5.91	0.0008

Least Squares Means

Effect	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
VehNo	**1**	0.7483	0.01459	39	51.29	<.0001	0.05	0.7188	0.7778
VehNo	**2**	0.7897	0.01351	39	58.47	<.0001	0.05	0.7624	0.8170
VehNo	**3**	0.8380	0.02007	39	41.74	<.0001	0.05	0.7974	0.8786
VehNo	**4**	0.7964	0.02634	39	30.23	<.0001	0.05	0.7431	0.8497
VehNo	**5**	0.8560	0.02070	39	41.35	<.0001	0.05	0.8141	0.8978

Differences of Least Squares Means

Effect	VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
VehNo	**1**	**2**	-0.04134	0.01988	39	-2.08	0.0442	Bonferroni	0.4420	0.05	-0.08155	-0.00113	-0.1005	0.01782
VehNo	**1**	**3**	-0.08962	0.02482	39	-3.61	0.0009	Bonferroni	0.0086	0.05	-0.1398	-0.03943	-0.1635	-0.01578
VehNo	**1**	**4**	-0.04807	0.03011	39	-1.60	0.1185	Bonferroni	1.0000	0.05	-0.1090	0.01284	-0.1377	0.04153
VehNo	**1**	**5**	-0.1076	0.02532	39	-4.25	0.0001	Bonferroni	0.0013	0.05	-0.1588	-0.05639	-0.1830	-0.03226
VehNo	**2**	**3**	-0.04828	0.02419	39	-2.00	0.0530	Bonferroni	0.5300	0.05	-0.09722	0.000655	-0.1203	0.02371
VehNo	**2**	**4**	-0.00673	0.02960	39	-0.23	0.8213	Bonferroni	1.0000	0.05	-0.06661	0.05315	-0.09482	0.08135
VehNo	**2**	**5**	-0.06628	0.02472	39	-2.68	0.0107	Bonferroni	0.1069	0.05	-0.1163	-0.01628	-0.1398	0.007269
VehNo	**3**	**4**	0.04155	0.03312	39	1.25	0.2171	Bonferroni	1.0000	0.05	-0.02544	0.1085	-0.05700	0.1401
VehNo	**3**	**5**	-0.01799	0.02883	39	-0.62	0.5362	Bonferroni	1.0000	0.05	-0.07632	0.04033	-0.1038	0.06780
VehNo	**4**	**5**	-0.05955	0.03350	39	-1.78	0.0833	Bonferroni	0.8331	0.05	-0.1273	0.008219	-0.1592	0.04014

Mixed run for Question 8
Average Total Speed

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.03375066	**Variance**	0.00113911
Skewness	0.62153653	**Kurtosis**	1.06695148
Uncorrected SS	0.12757998	**Corrected SS**	0.12757998
Coeff Variation	.	**Std Error Mean**	0.00317499

Basic Statistical Measures

Location		Variability	
Mean	0.00000	**Std Deviation**	0.03375
Median	-0.00596	**Variance**	0.00114
Mode	.	**Range**	0.18745
		Interquartile Range	0.03512

Tests for Location: Mu0=0

Test		Statistic		p Value
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	-8.5	**Pr >= |M|**	0.1319
Signed Rank	**S**	-279.5	**Pr >= |S|**	0.4257

Tests for Normality

Test		Statistic		p Value
Shapiro-Wilk	**W**	0.964491	**Pr < W**	0.0043
Kolmogorov-Smirnov	**D**	0.102362	**Pr > D**	<0.0100
Cramer-von Mises	**W-Sq**	0.276124	**Pr > W-Sq**	<0.0050
Anderson-Darling	**A-Sq**	1.426751	**Pr > A-Sq**	<0.0050

Quantiles (Definition 5)

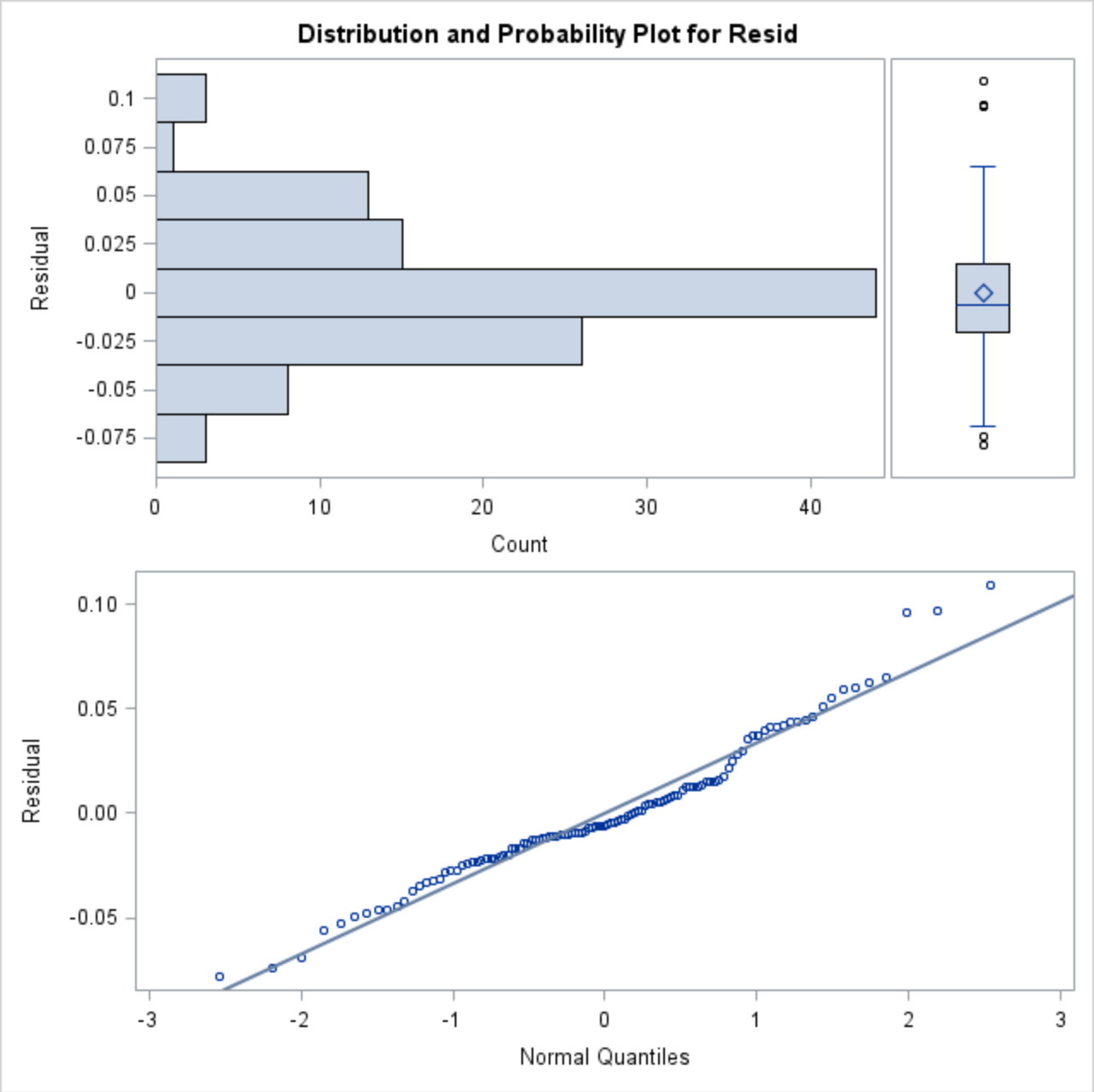
Quantile	Estimate
100% Max	0.10907984
99%	0.09703485
95%	0.05966959
90%	0.04383564
75% Q3	0.01488025
50% Median	-0.00595673

Quantiles (Definition 5)

Quantile	Estimate
25% Q1	-0.02024290
10%	-0.03733360
5%	-0.04998185
1%	-0.07436492
0% Min	-0.07836776

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.0783678	19	0.0623118	49
-0.0743649	73	0.0651779	28
-0.0691026	95	0.0957558	72
-0.0561362	92	0.0970348	10
-0.0531537	13	0.1090798	98



Mixed run for Question 8 Average Speed off Road

The Mixed Procedure

Model Information

Data Set	WORK.VEH0
Dependent Variable	ASORlog10
Covariance Structure	Variance Components
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Dimensions

Covariance Parameters	2
Columns in X	6
Columns in Z	44
Subjects	1
Max Obs Per Subject	113

Number of Observations

Number of Observations Read	113
Number of Observations Used	113
Number of Observations Not Used	0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	-275.45673421	
1	2	-284.76571611	0.00000000

Convergence criteria met.

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error	Z Value	Pr > Z	Alpha	Lower	Upper
VehPlt(VehNo)	0.001284	0.000594	2.16	0.0154	0.05	0.000614	0.004160
Residual	0.002824	0.000472	5.99	<.0001	0.05	0.002087	0.004035

Fit Statistics

-2 Res Log Likelihood	-284.8

Fit Statistics

AIC (smaller is better)	-280.8
AICC (smaller is better)	-280.7
BIC (smaller is better)	-277.2

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	12.79	<.0001

Least Squares Means

Effect	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
VehNo	**1**	0.5315	0.01412	39	37.64	<.0001	0.05	0.5030	0.5601
VehNo	**2**	0.5021	0.01282	39	39.17	<.0001	0.05	0.4762	0.5280
VehNo	**3**	0.3973	0.02020	39	19.67	<.0001	0.05	0.3565	0.4382
VehNo	**4**	0.4875	0.02866	39	17.01	<.0001	0.05	0.4295	0.5455
VehNo	**5**	0.3906	0.02103	39	18.57	<.0001	0.05	0.3481	0.4331

Differences of Least Squares Means

Effect	VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adjustment	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
VehNo	**1**	**2**	0.02947	0.01907	39	1.55	0.1304	Bonferroni	1.0000	0.05	-0.00911	0.06804	-0.02728	0.08621
VehNo	**1**	**3**	0.1342	0.02465	39	5.45	<.0001	Bonferroni	<.0001	0.05	0.08436	0.1841	0.06087	0.2076
VehNo	**1**	**4**	0.04406	0.03195	39	1.38	0.1757	Bonferroni	1.0000	0.05	-0.02056	0.1087	-0.05101	0.1391
VehNo	**1**	**5**	0.1409	0.02533	39	5.56	<.0001	Bonferroni	<.0001	0.05	0.08971	0.1922	0.06557	0.2163
VehNo	**2**	**3**	0.1048	0.02393	39	4.38	<.0001	Bonferroni	0.0009	0.05	0.05635	0.1532	0.03355	0.1760
VehNo	**2**	**4**	0.01460	0.03140	39	0.46	0.6445	Bonferroni	1.0000	0.05	-0.04891	0.07811	-0.07883	0.1080
VehNo	**2**	**5**	0.1115	0.02463	39	4.53	<.0001	Bonferroni	0.0006	0.05	0.06166	0.1613	0.03819	0.1848
VehNo	**3**	**4**	-0.09015	0.03507	39	-2.57	0.0141	Bonferroni	0.1408	0.05	-0.1611	-0.01922	-0.1945	0.01419
VehNo	**3**	**5**	0.006729	0.02916	39	0.23	0.8187	Bonferroni	1.0000	0.05	-0.05226	0.06572	-0.08005	0.09351
VehNo	**4**	**5**	0.09688	0.03555	39	2.73	0.0096	Bonferroni	0.0957	0.05	0.02498	0.1688	-0.00890	0.2027

Mixed run for Question 8
Average Speed off Road

The UNIVARIATE Procedure
Variable: Resid (Residual)

Moments

N	113	**Sum Weights**	113
Mean	0	**Sum Observations**	0
Std Deviation	0.04725818	**Variance**	0.00223334
Skewness	0.09989524	**Kurtosis**	0.5174281
Uncorrected SS	0.25013357	**Corrected SS**	0.25013357
Coeff Variation	.	**Std Error Mean**	0.00444568

Basic Statistical Measures

Location		**Variability**	
Mean	0.000000	**Std Deviation**	0.04726
Median	0.001547	**Variance**	0.00223
Mode	.	**Range**	0.25383
		Interquartile Range	0.04648

Tests for Location: Mu0=0

Test	**Statistic**		**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	1.5	**Pr >= |M|**	0.8509
Signed Rank	**S**	3.5	**Pr >= |S|**	0.9921

Tests for Normality

Test	**Statistic**		**p Value**	
Shapiro-Wilk	**W**	0.983434	**Pr < W**	0.1767
Kolmogorov-Smirnov	**D**	0.072584	**Pr > D**	0.1481
Cramer-von Mises	**W-Sq**	0.148205	**Pr > W-Sq**	0.0246
Anderson-Darling	**A-Sq**	0.800844	**Pr > A-Sq**	0.0388

Quantiles (Definition 5)

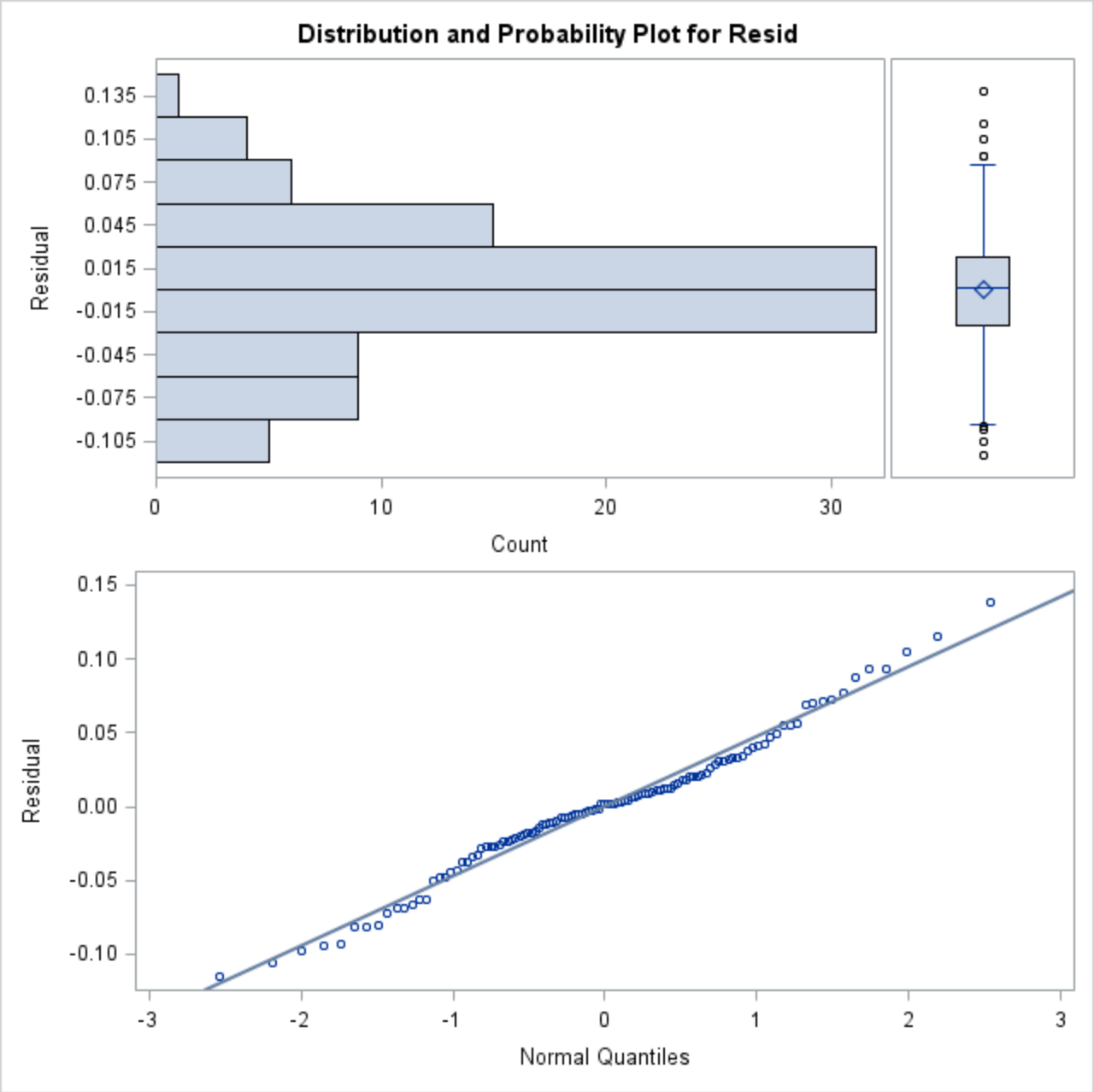
Quantile	**Estimate**
100% Max	0.13851634
99%	0.11543437
95%	0.08714683
90%	0.05642335
75% Q3	0.02229690
50% Median	0.00154747

Quantiles (Definition 5)

Quantile	Estimate
25% Q1	-0.02418015
10%	-0.06686714
5%	-0.08160316
1%	-0.10588365
0% Min	-0.11531580

Extreme Observations

Lowest		Highest	
Value	**Obs**	**Value**	**Obs**
-0.1153158	105	0.0928190	75
-0.1058836	106	0.0928539	86
-0.0972911	39	0.1049979	103
-0.0947160	98	0.1154344	10
-0.0936718	82	0.1385163	91


Distribution and Probability Plot for Resid
Residual
0.135
0.105
0.075
0.045
0.015
-0.015
-0.045
-0.075
-0.105
0
10
20
30
Count
Residual
0.15
0.10
0.05
0.00
-0.05
-0.10
-3
-2
-1
0
1
2
3
Normal Quantiles

Mixed run for Question 8
%off Road time with Turing Radius less than 30m

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ORTTR
Response Distribution	Beta
Link Function	Logit
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	6
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	2
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**6**	0.9336768182	0.04543474	0.003703

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
1	**0**	**4**	1.1206049197	0.00480585	3.507E-7
2	**0**	**1**	1.1200151832	0.00000655	3.884E-6
3	**0**	**0**	1.1200140251	0.00000000	2.936E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	1.12
Generalized Chi-Square	108.00
Gener. Chi-Square / DF	1.00

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(VehNo)	0.02559	0.01033
Scale	115.39	19.8969

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	8.97	<.0001

VehNo Least Squares Means

VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	0.3750	0.05784	39	6.48	<.0001	0.05	0.2580	0.4920	0.5927	0.01396	0.5641	0.6206
2	0.3455	0.05292	39	6.53	<.0001	0.05	0.2385	0.4525	0.5855	0.01284	0.5593	0.6112
3	0.7909	0.08319	39	9.51	<.0001	0.05	0.6226	0.9592	0.6880	0.01786	0.6508	0.7230
4	0.4379	0.1111	39	3.94	0.0003	0.05	0.2131	0.6627	0.6078	0.02649	0.5531	0.6599
5	0.7792	0.08630	39	9.03	<.0001	0.05	0.6046	0.9538	0.6855	0.01861	0.6467	0.7219

Differences of VehNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	0.02946	0.07840	39	0.38	0.7091	1.0000	0.05	-0.1291	0.1880	-0.2038	0.2627
1	**3**	-0.4159	0.1013	39	-4.11	0.0002	0.0020	0.05	-0.6209	-0.2110	-0.7174	-0.1144
1	**4**	-0.06296	0.1253	39	-0.50	0.6181	1.0000	0.05	-0.3164	0.1904	-0.4357	0.3098
1	**5**	-0.4042	0.1039	39	-3.89	0.0004	0.0038	0.05	-0.6144	-0.1941	-0.7134	-0.09509
2	**3**	-0.4454	0.09859	39	-4.52	<.0001	0.0006	0.05	-0.6448	-0.2460	-0.7388	-0.1520
2	**4**	-0.09242	0.1231	39	-0.75	0.4572	1.0000	0.05	-0.3414	0.1565	-0.4587	0.2738
2	**5**	-0.4337	0.1012	39	-4.28	0.0001	0.0012	0.05	-0.6385	-0.2289	-0.7349	-0.1325

Differences of VehNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
3	**4**	0.3530	0.1388	39	2.54	0.0151	0.1508	0.05	0.07219	0.6337	-0.06008	0.7660
3	**5**	0.01169	0.1199	39	0.10	0.9228	1.0000	0.05	-0.2308	0.2542	-0.3450	0.3684
4	**5**	-0.3413	0.1407	39	-2.43	0.0200	0.2002	0.05	-0.6259	-0.05668	-0.7599	0.07740

Mixed run for Question 8
Total Distance Travled

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	TDT
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	6
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1

Optimization Information

Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**6**	150.33751846	0.38813815	1.081E-7
1	**0**	**4**	132.6879426	0.23960305	0.000017
2	**0**	**2**	132.48741052	0.01983769	0.000025
3	**0**	**2**	132.69391529	0.00259981	4.455E-7
4	**0**	**2**	132.66172819	0.00071636	1.669E-7
5	**0**	**2**	132.66037001	0.00024771	2.189E-8
6	**0**	**2**	132.65642894	0.00011607	8.155E-9
7	**0**	**2**	132.65507823	0.00005537	1.863E-9
8	**0**	**2**	132.65428078	0.00002845	4.92E-10
9	**0**	**1**	132.65391183	0.00001471	7.415E-6
10	**0**	**1**	132.65372528	0.00000669	3.373E-6
11	**0**	**1**	132.65363217	0.00000322	1.621E-6
12	**0**	**1**	132.65358752	0.00000156	7.877E-7
13	**0**	**0**	132.65356598	0.00000040	7.222E-6
14	**0**	**0**	132.65355509	0.00000014	9.556E-6
15	**0**	**1**	132.65355192	0.00000109	5.505E-7
16	**0**	**0**	132.65355143	0.00000012	1.982E-6
17	**0**	**0**	132.653548	0.00000002	2.448E-6
18	**0**	**0**	132.65354735	0.00000001	2.653E-6
19	**0**	**0**	132.65354707	0.00000000	2.724E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	132.65
Generalized Chi-Square	12.44
Gener. Chi-Square / DF	0.12

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(VehNo)	0.1102	0.04105
Residual	0.1152	0.02009

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	3.64	0.0130

VehNo Least Squares Means

VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	11.4920	0.1148	39	100.12	<.0001	0.05	11.2598	11.7242	97927	11241	77637	123519
2	11.6053	0.1058	39	109.71	<.0001	0.05	11.3914	11.8193	109681	11603	88553	135849
3	12.0084	0.1592	39	75.43	<.0001	0.05	11.6864	12.3304	164124	26128	118940	226473
4	11.0485	0.2123	39	52.04	<.0001	0.05	10.6190	11.4779	62847	13344	40904	96561
5	11.6964	0.1647	39	71.03	<.0001	0.05	11.3634	12.0295	120141	19783	86109	167624

Differences of VehNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	-0.1134	0.1561	39	-0.73	0.4721	1.0000	0.05	-0.4291	0.2024	-0.5778	0.3511
1	**3**	-0.5164	0.1963	39	-2.63	0.0121	0.1212	0.05	-0.9134	-0.1194	-1.1004	0.06760
1	**4**	0.4435	0.2414	39	1.84	0.0738	0.7376	0.05	-0.04470	0.9317	-0.2747	1.1617
1	**5**	-0.2044	0.2007	39	-1.02	0.3147	1.0000	0.05	-0.6104	0.2016	-0.8017	0.3928
2	**3**	-0.4030	0.1911	39	-2.11	0.0414	0.4145	0.05	-0.7897	-0.01643	-0.9718	0.1657
2	**4**	0.5569	0.2372	39	2.35	0.0241	0.2407	0.05	0.07705	1.0367	-0.1490	1.2627
2	**5**	-0.09109	0.1957	39	-0.47	0.6442	1.0000	0.05	-0.4870	0.3048	-0.6735	0.4913
3	**4**	0.9599	0.2654	39	3.62	0.0008	0.0084	0.05	0.4231	1.4967	0.1703	1.7496
3	**5**	0.3120	0.2290	39	1.36	0.1810	1.0000	0.05	-0.1513	0.7752	-0.3696	0.9935
4	**5**	-0.6480	0.2687	39	-2.41	0.0207	0.2069	0.05	-1.1914	-0.1045	-1.4475	0.1516

Mixed run for Question 8
Distance Travled off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	DTOR
Response Distribution	Gamma
Link Function	Log

Model Information

Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	6
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**4**	217.46888444	1.68501440	4.875E-8
1	**0**	**6**	190.43283497	0.42714549	1.447E-8
2	**0**	**3**	193.52944874	0.05755301	7.467E-6
3	**0**	**2**	194.12052985	0.01015772	1.797E-7
4	**0**	**1**	194.16543881	0.00360437	1.115E-6
5	**0**	**1**	194.20468439	0.00158387	4.432E-6

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
6	**0**	**1**	194.21165139	0.00057616	2.276E-8
7	**0**	**1**	194.21705539	0.00023938	8.679E-8
8	**0**	**1**	194.21809526	0.00008739	1.659E-9
9	**0**	**1**	194.21886528	0.00003573	1.899E-9
10	**0**	**1**	194.21902496	0.00001310	4.851E-9
11	**0**	**1**	194.21913607	0.00000531	3.993E-9
12	**0**	**0**	194.21916071	0.00000189	1.826E-6
13	**0**	**0**	194.21917577	0.00000070	3.923E-6
14	**0**	**0**	194.21917795	0.00000025	4.25E-6
15	**0**	**0**	194.21917962	0.00000009	4.524E-6
16	**0**	**0**	194.2191799	0.00000003	4.568E-6
17	**0**	**0**	194.21918011	0.00000001	4.603E-6
18	**0**	**0**	194.21918014	0.00000000	4.609E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	194.22
Generalized Chi-Square	17.13
Gener. Chi-Square / DF	0.16

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(VehNo)	0.3831	0.1078
Residual	0.1586	0.02719

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	2.68	0.0456

VehNo Least Squares Means

VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	9.0621	0.1943	39	46.63	<.0001	0.05	8.6691	9.4552	8622.64	1675.68	5820.07	12775
2	9.2160	0.1824	39	50.54	<.0001	0.05	8.8472	9.5849	10057	1834.08	6954.67	14544
3	9.2852	0.2619	39	35.46	<.0001	0.05	8.7555	9.8150	10778	2822.54	6345.69	18305
4	8.0580	0.3292	39	24.48	<.0001	0.05	7.3922	8.7238	3158.82	1039.78	1623.20	6147.22
5	9.0322	0.2672	39	33.80	<.0001	0.05	8.4917	9.5727	8368.23	2236.10	4874.19	14367

Differences of VehNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	-0.1539	0.2665	39	-0.58	0.5670	1.0000	0.05	-0.6929	0.3852	-0.9469	0.6391
1	**3**	-0.2231	0.3261	39	-0.68	0.4980	1.0000	0.05	-0.8827	0.4365	-1.1935	0.7473
1	**4**	1.0042	0.3823	39	2.63	0.0122	0.1225	0.05	0.2310	1.7774	-0.1332	2.1416
1	**5**	0.02995	0.3304	39	0.09	0.9282	1.0000	0.05	-0.6384	0.6983	-0.9532	1.0131
2	**3**	-0.06920	0.3191	39	-0.22	0.8295	1.0000	0.05	-0.7147	0.5763	-1.0188	0.8804
2	**4**	1.1581	0.3763	39	3.08	0.0038	0.0381	0.05	0.3969	1.9192	0.03834	2.2778
2	**5**	0.1838	0.3235	39	0.57	0.5731	1.0000	0.05	-0.4705	0.8382	-0.7788	1.1465
3	**4**	1.2273	0.4206	39	2.92	0.0058	0.0582	0.05	0.3765	2.0781	-0.02436	2.4789
3	**5**	0.2530	0.3741	39	0.68	0.5028	1.0000	0.05	-0.5037	1.0098	-0.8603	1.3664
4	**5**	-0.9742	0.4240	39	-2.30	0.0270	0.2702	0.05	-1.8318	-0.1167	-2.2358	0.2873

Mixed run for Question 8
Average Total Speed

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ATS
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read 113

Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	6
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**4**	-140.1996198	0.06210100	5.001E-7
1	**0**	**2**	-140.7571051	0.01345860	0.00004
2	**0**	**1**	-140.7668889	0.00040384	9.483E-6
3	**0**	**1**	-140.7648162	0.00003495	7.067E-8
4	**0**	**1**	-140.7649951	0.00000362	5.05E-10
5	**0**	**0**	-140.7649758	0.00000033	3.931E-6
6	**0**	**0**	-140.7649775	0.00000003	3.594E-6
7	**0**	**0**	-140.7649774	0.00000000	3.625E-6

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-140.76
Generalized Chi-Square	0.95
Gener. Chi-Square / DF	0.01

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(VehNo)	0.009955	0.003417

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
Residual	0.008791	0.001516

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	5.82	0.0009

VehNo Least Squares Means

VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	1.7262	0.03374	39	51.17	<.0001	0.05	1.6580	1.7945	5.6194	0.1896	5.2488	6.0163
2	1.8209	0.03120	39	58.36	<.0001	0.05	1.7578	1.8840	6.1775	0.1927	5.7997	6.5799
3	1.9309	0.04650	39	41.53	<.0001	0.05	1.8369	2.0250	6.8960	0.3206	6.2770	7.5761
4	1.8369	0.06123	39	30.00	<.0001	0.05	1.7131	1.9608	6.2772	0.3844	5.5460	7.1048
5	1.9744	0.04798	39	41.15	<.0001	0.05	1.8774	2.0715	7.2025	0.3456	6.5363	7.9365

Differences of VehNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	-0.09468	0.04595	39	-2.06	0.0461	0.4607	0.05	-0.1876	-0.00174	-0.2314	0.04205
1	**3**	-0.2047	0.05745	39	-3.56	0.0010	0.0098	0.05	-0.3209	-0.08852	-0.3757	-0.03378
1	**4**	-0.1107	0.06991	39	-1.58	0.1214	1.0000	0.05	-0.2521	0.03072	-0.3187	0.09733
1	**5**	-0.2482	0.05865	39	-4.23	0.0001	0.0014	0.05	-0.3668	-0.1296	-0.4227	-0.07367
2	**3**	-0.1100	0.05599	39	-1.97	0.0566	0.5656	0.05	-0.2233	0.003227	-0.2767	0.05659
2	**4**	-0.01601	0.06872	39	-0.23	0.8170	1.0000	0.05	-0.1550	0.1230	-0.2205	0.1885
2	**5**	-0.1535	0.05723	39	-2.68	0.0107	0.1067	0.05	-0.2693	-0.03775	-0.3238	0.01679
3	**4**	0.09403	0.07688	39	1.22	0.2287	1.0000	0.05	-0.06149	0.2495	-0.1348	0.3228
3	**5**	-0.04348	0.06681	39	-0.65	0.5190	1.0000	0.05	-0.1786	0.09166	-0.2423	0.1553
4	**5**	-0.1375	0.07779	39	-1.77	0.0849	0.8494	0.05	-0.2949	0.01984	-0.3690	0.09397

Mixed run for Question 8
Average Speed off Road

The GLIMMIX Procedure

Model Information

Data Set	WORK.VEH0
Response Variable	ASOR
Response Distribution	Gamma
Link Function	Log
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Residual PL
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
VehNo	5	1 2 3 4 5
VehPlt	44	1_14 1_15 1_16 1_17 1_26 1_27 1_28 1_29 1_30 1_31 1_32 1_33 2_10 2_11 2_12 2_13 2_18 2_19 2_20 2_21 2_22 2_23 2_25 2_8 2_9 3_1 3_2 3_3 3_4 3_5 3_6 3_7 4_20 4_24 4_28 4_32 4_7 5_1 5_3 5_32 5_4 5_5 5_6 5_7

Number of Observations Read	113
Number of Observations Used	113

Dimensions

G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	6
Columns in Z	44
Subjects (Blocks in V)	1
Max Obs per Subject	113

Optimization Information

Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled

Optimization Information

Residual Variance	Profiled
Starting From	Data

Iteration History

Iteration	Restarts	Subiterations	Objective Function	Change	Max Gradient
0	**0**	**3**	-104.2033422	0.32831589	2.715E-6
1	**0**	**2**	-104.0226912	0.03145902	3.616E-8
2	**0**	**1**	-104.0513708	0.00176760	2.165E-7
3	**0**	**1**	-104.0522641	0.00014596	3.73E-9
4	**0**	**1**	-104.0524266	0.00001241	1.523E-8
5	**0**	**0**	-104.0524254	0.00000091	1.005E-6
6	**0**	**0**	-104.0524268	0.00000006	8.501E-7
7	**0**	**0**	-104.0524268	0.00000000	8.527E-7

Convergence criterion (PCONV=1.11022E-8) satisfied.

Fit Statistics

-2 Res Log Pseudo-Likelihood	-104.05
Generalized Chi-Square	1.65
Gener. Chi-Square / DF	0.02

Covariance Parameter Estimates

Cov Parm	Estimate	Standard Error
VehPlt(VehNo)	0.006295	0.003056
Residual	0.01532	0.002554

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
VehNo	4	39	13.38	<.0001

VehNo Least Squares Means

VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper	Mean	Standard Error Mean	Lower Mean	Upper Mean
1	1.2315	0.03197	39	38.52	<.0001	0.05	1.1668	1.2961	3.4263	0.1095	3.2118	3.6552
2	1.1606	0.02897	39	40.06	<.0001	0.05	1.1020	1.2192	3.1919	0.09246	3.0102	3.3845
3	0.9163	0.04595	39	19.94	<.0001	0.05	0.8233	1.0092	2.5000	0.1149	2.2781	2.7434
4	1.1324	0.06575	39	17.22	<.0001	0.05	0.9994	1.2654	3.1031	0.2040	2.7167	3.5444
5	0.9062	0.04784	39	18.94	<.0001	0.05	0.8094	1.0029	2.4748	0.1184	2.2466	2.7262

Differences of VehNo Least Squares Means
Adjustment for Multiple Comparisons: Bonferroni

VehNo	VehNo	Estimate	Standard Error	DF	t Value	Pr > |t|	Adj P	Alpha	Lower	Upper	Adj Lower	Adj Upper
1	**2**	0.07087	0.04314	39	1.64	0.1085	1.0000	0.05	-0.01639	0.1581	-0.05750	0.1992
1	**3**	0.3152	0.05598	39	5.63	<.0001	<.0001	0.05	0.2020	0.4284	0.1486	0.4818
1	**4**	0.09909	0.07311	39	1.36	0.1831	1.0000	0.05	-0.04878	0.2470	-0.1184	0.3166
1	**5**	0.3253	0.05754	39	5.65	<.0001	<.0001	0.05	0.2089	0.4417	0.1541	0.4965
2	**3**	0.2443	0.05432	39	4.50	<.0001	0.0006	0.05	0.1345	0.3542	0.08271	0.4060
2	**4**	0.02822	0.07185	39	0.39	0.6966	1.0000	0.05	-0.1171	0.1735	-0.1856	0.2420
2	**5**	0.2544	0.05593	39	4.55	<.0001	0.0005	0.05	0.1413	0.3676	0.08804	0.4209
3	**4**	-0.2161	0.08021	39	-2.69	0.0103	0.1035	0.05	-0.3784	-0.05388	-0.4548	0.02256
3	**5**	0.01011	0.06633	39	0.15	0.8797	1.0000	0.05	-0.1241	0.1443	-0.1873	0.2075
4	**5**	0.2262	0.08131	39	2.78	0.0083	0.0827	0.05	0.06177	0.3907	-0.01571	0.4682