|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table A1.** Driving rules monitored, time units and distance units. | | | | | |
| **Driving Rules** | **Thresholds/Conditions for Rule Exception** | **Time**  **Units** | **Distance**  **Units** |
| Emergency (Em) Driving | Lights and Siren (L/S) = On AND vehicle is in motion | min | km |
| Hard Acceleration | g-force > 0.29G (Longitudinal) | sec | m |
| Harsh Braking | g-force < -0.47G (Longitudinal) | sec | m |
| Hard Cornering | g-force < -0.32G (Lateral) | sec | m |
| Non-Em Speeding >5mph | L/S = Off AND > 5mph over posted speed limit | min | km |
| Non-Em Speeding >10mph | L/S = Off AND > 10mph over posted speed limit | min | km |
| Non-Em Speeding >15mph | L/S = Off AND > 15mph over posted speed limit | min | km |
| Em Speeding >5mph | L/S = On AND > 5mph over posted speed limit | min | km |
| Em Speeding >10mph | L/S = On AND > 10mph over posted speed limit | min | km |
| Em Speeding >15mph | L/S = On AND > 15mph over posted speed limit | min | km |
|  | | | | |

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| --- | --- | --- |
| **Table A2.** Summary of driving rules and assigned Bayesian priors. | | |
| **Driving Rules** | **Risk Level** | **Assigned Prior Odds Ratios (OR) and 95% Confidence Intervals (95%CI)** |
| Emergency Driving  Emergency Speeding >5mph  Non- Emergency Speeding >5mph | Low | OR=2.0, 95%CI=0.50-8.0 |
| Acceleration  Hard Cornering  Emergency Speeding >10mph  Non- Emergency Speeding >10mph | Medium | OR=4.0, 95%CI=1.00-16.00 |
| Harsh Braking  Emergency Speeding >15mph  Non- Emergency Speeding >15mph | High | OR=8.0, 95%CI=2.00-32.00 |
|  |  |  |

**Table A3.** Summary statistics of driving rule exceptions by department.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table A3.A.** Summary of department driving rule exception counts. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | |  | | **Department A** | | | | | | | |  | | **Department B** | | | | | | | |  | | **Random effects Poisson regression** | | | | | | | | | | | | | |
| **Count** | | **Unit** | | **Total** | | **Total per 100km** | | **Daily Vehicle Mean** | | **Daily SD** | |  | | **Total** | | **Total per 100km** | | **Daily Vehicle Mean** | | **Daily SD** | |  | | **IRR** | | **P** | | **95L** | | | **95U** | | |
| Emergency Driving | | n | | 41587 | | 9.6 | | 7.5 | | 5.3 | |  | | 94683 | | 14.8 | | 8.4 | | 3.2 | |  | | 0.53 | | 0.046 | | 0.28 | | | 0.99 | | |
| Hard Acceleration | | n | | 3954 | | 0.9 | | 0.7 | | 0.6 | |  | | 6448 | | 1.0 | | 0.6 | | 1.0 | |  | | 1.00 | | 0.996 | | 0.34 | | | 2.91 | | |
| Harsh Braking | | n | | 287 | | 0.1 | | 0.1 | | 0.0 | |  | | 267 | | 0.04 | | 0.0 | | 0.0 | |  | | 1.65 | | 0.203 | | 0.76 | | | 3.58 | | |
| Hard cornering | | n | | 38916 | | 9.0 | | 7.0 | | 4.8 | |  | | 10740 | | 1.7 | | 1.0 | | 0.9 | |  | | 5.71 | | 0.000 | | 2.26 | | | 14.42 | | |
| Speeding >05mph | | n | | 29752 | | 6.9 | | 5.3 | | 3.6 | |  | | 23373 | | 3.7 | | 2.1 | | 1.8 | |  | | 1.86 | | 0.012 | | 1.15 | | | 3.01 | | |
| Speeding >10mph | | n | | 8530 | | 2.0 | | 1.5 | | 1.3 | |  | | 6094 | | 1.0 | | 0.5 | | 0.6 | |  | | 2.14 | | 0.006 | | 1.24 | | | 3.70 | | |
| Speeding >15mph | | n | | 2203 | | 0.5 | | 0.4 | | 0.4 | |  | | 1248 | | 0.2 | | 0.1 | | 0.2 | |  | | 2.81 | | 0.006 | | 1.35 | | | 5.85 | | |
| Emergency Speeding >05mph | | n | | 41528 | | 9.6 | | 7.5 | | 5.7 | |  | | 23715 | | 3.7 | | 2.1 | | 1.6 | |  | | 2.42 | | 0.012 | | 1.21 | | | 4.83 | | |
| Emergency Speeding >10mph | | n | | 18892 | | 4.4 | | 3.4 | | 2.7 | |  | | 9474 | | 1.5 | | 0.8 | | 0.7 | |  | | 2.70 | | 0.008 | | 1.30 | | | 5.62 | | |
| Emergency Speeding >15mph | | n | | 6189 | | 1.4 | | 1.1 | | 1.0 | |  | | 3034 | | 0.5 | | 0.3 | | 0.3 | |  | | 2.66 | | 0.016 | | 1.20 | | | 5.90 | | |
|  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | | |  | | |
| **Table A3.B.** Summary of department driving rule exception distances. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | **Department A** | | | | | | | |  | | **Department B** | | | | | | | |  | | **Random effects GLS regression results** | | | | | | | | | | | | | |
| **Distance** | **Unit** | | **Total** | | **Total per 100km** | | **Daily Vehicle Mean** | | **Daily SD** | |  | | **Total** | | **Total per 100km** | | **Daily Vehicle Mean** | | **Daily SD** | |  | | **Coef.** | | | **P** | | | **95L** | | | **95U** | | | |
| Emergency Driving | km | | 144605 | | 33.3 | | 26.0 | | 18.5 | |  | | 167003 | | 26.2 | | 14.8 | | 7.4 | |  | | 11.71 | | | 0.003 | | | 4.06 | | | 19.37 | | | |
| Hard Acceleration | m | | 24317 | | 5.6 | | 4.4 | | 4.1 | |  | | 39319 | | 6.2 | | 3.5 | | 7.3 | |  | | 1.04 | | | 0.643 | | | -3.36 | | | 5.45 | | | |
| Harsh Braking | m | | 980 | | 0.2 | | 0.2 | | 0.1 | |  | | 524 | | 0.1 | | 0.0 | | 0.1 | |  | | 0.13 | | | 0.002 | | | 0.05 | | | 0.22 | | | |
| Hard cornering | m | | 279514 | | 64.5 | | 50.2 | | 37.0 | |  | | 51008 | | 8.0 | | 4.5 | | 5.1 | |  | | 45.96 | | | 0.000 | | | 32.90 | | | 59.03 | | | |
| Speeding >05mph | km | | 20616 | | 4.8 | | 3.7 | | 3.5 | |  | | 14975 | | 2.3 | | 1.3 | | 1.2 | |  | | 2.25 | | | 0.001 | | | 0.87 | | | 3.63 | | | |
| Speeding >10mph | km | | 5901 | | 1.4 | | 1.1 | | 1.1 | |  | | 3730 | | 0.6 | | 0.3 | | 0.4 | |  | | 0.68 | | | 0.002 | | | 0.25 | | | 1.11 | | | |
| Speeding >15mph | km | | 1397 | | 0.3 | | 0.3 | | 0.3 | |  | | 633 | | 0.1 | | 0.1 | | 0.1 | |  | | 0.18 | | | 0.001 | | | 0.07 | | | 0.29 | | | |
| Emergency Speeding >05mph | km | | 32336 | | 7.5 | | 5.8 | | 4.7 | |  | | 14872 | | 2.3 | | 1.3 | | 1.2 | |  | | 4.53 | | | 0.000 | | | 2.78 | | | 6.27 | | | |
| Emergency Speeding >10mph | km | | 12838 | | 3.0 | | 2.3 | | 1.9 | |  | | 5877 | | 0.9 | | 0.5 | | 0.5 | |  | | 1.79 | | | 0.000 | | | 1.07 | | | 2.52 | | | |
| Emergency Speeding >15mph | km | | 3817 | | 0.9 | | 0.7 | | 0.6 | |  | | 1676 | | 0.3 | | 0.1 | | 0.1 | |  | | 0.54 | | | 0.000 | | | 0.31 | | | 0.77 | | | |
| **Table A3.C.** Summary of department driving rule exception duration. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | **Department A** | | | | | | | |  | | **Department B** | | | | | | | |  | | **Random effects GLS regression results** | | | | | | | | | | | |
| **Time** | **Unit** | | **Total** | | **Total per 100km** | | **Daily Vehicle Mean** | | **Daily SD** | |  | | **Total** | | **Total per 100km** | | **Daily Vehicle Mean** | | **Daily SD** | |  | | **Coef.** | | **P** | | **95L** | | | **95U** | | |
| Emergency Driving | min | | 154977 | | 35.7 | | 27.8 | | 19.0 | |  | | 267144 | | 41.8 | | 23.7 | | 8.6 | |  | | 4.63 | | 0.267 | | -3.54 | | | 12.79 | | |
| Hard Acceleration | s | | 2743 | | 0.6 | | 0.5 | | 0.5 | |  | | 5247 | | 0.8 | | 0.5 | | 0.9 | |  | | 0.04 | | 0.871 | | -0.48 | | | 0.57 | | |
| Harsh Braking | s | | 95 | | 0.0 | | 0.0 | | 0.0 | |  | | 70 | | 0.0 | | 0.0 | | 0.0 | |  | | 0.01 | | 0.010 | | 0.00 | | | 0.02 | | |
| Hard cornering | s | | 28042 | | 6.5 | | 5.0 | | 3.7 | |  | | 6064 | | 0.9 | | 0.5 | | 0.6 | |  | | 4.53 | | 0.000 | | 3.21 | | | 5.84 | | |
| Speeding >05mph | min | | 15397 | | 3.6 | | 2.8 | | 2.5 | |  | | 11489 | | 1.8 | | 1.0 | | 0.9 | |  | | 1.66 | | 0.001 | | 0.65 | | | 2.67 | | |
| Speeding >10mph | min | | 3993 | | 0.9 | | 0.7 | | 0.7 | |  | | 2716 | | 0.4 | | 0.2 | | 0.3 | |  | | 0.45 | | 0.003 | | 0.15 | | | 0.74 | | |
| Speeding >15mph | min | | 889 | | 0.2 | | 0.2 | | 0.2 | |  | | 471 | | 0.1 | | 0.0 | | 0.1 | |  | | 0.11 | | 0.003 | | 0.04 | | | 0.18 | | |
| Emergency Speeding >05mph | min | | 23225 | | 5.4 | | 4.2 | | 3.3 | |  | | 11293 | | 1.8 | | 1.0 | | 0.8 | |  | | 3.20 | | 0.000 | | 1.95 | | | 4.45 | | |
| Emergency Speeding >10mph | min | | 8765 | | 2.0 | | 1.6 | | 1.3 | |  | | 4218 | | 0.7 | | 0.4 | | 0.4 | |  | | 1.21 | | 0.000 | | 0.71 | | | 1.70 | | |
| Emergency Speeding >15mph | min | | 2490 | | 0.6 | | 0.4 | | 0.4 | |  | | 1177 | | 0.2 | | 0.1 | | 0.1 | |  | | 0.35 | | 0.000 | | 0.19 | | | 0.50 | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table A4.** Odds ratio (OR) for each driving rule and domain, stratified by department (all crashes). | | | | | | | | | | | | |
|  |  |  |  | **Department A** | | | |  | **Department B** | | | |
| **Driving Rule** | **Type** | **Unit** |  | **OR** | **P** | **95%CI** | |  | **OR** | **P** | **95%CI** | |
| Emergency Driving | Count | n |  | 0.94 | 0.25 | 0.84 | 1.05 |  | 1.03 | 0.37 | 0.96 | 1.10 |
| Hard Acceleration | Count | n |  | 1.04 | 0.82 | 0.74 | 1.47 |  | 1.11 | 0.13 | 0.97 | 1.28 |
| Harsh Braking\* | Count | n |  | 2.22 | 0.03 | 1.09 | 4.51 |  | 1.55 | 0.01 | 1.12 | 2.15 |
| Hard cornering\* | Count | n |  | 0.96 | 0.43 | 0.88 | 1.06 |  | 1.14 | 0.02 | 1.03 | 1.26 |
| Speeding >05mph | Count | n |  | 0.97 | 0.67 | 0.86 | 1.10 |  | 0.98 | 0.79 | 0.85 | 1.13 |
| Speeding >10mph | Count | n |  | 1.06 | 0.35 | 0.94 | 1.19 |  | 1.00 | 0.99 | 0.73 | 1.36 |
| Speeding >15mph\* | Count | n |  | 1.15 | 0.22 | 0.92 | 1.43 |  | 1.57 | 0.01 | 1.11 | 2.23 |
| Emergency Speeding >05mph | Count | n |  | 0.93 | 0.17 | 0.83 | 1.03 |  | 0.96 | 0.58 | 0.82 | 1.11 |
| Emergency Speeding >10mph | Count | n |  | 0.92 | 0.35 | 0.76 | 1.10 |  | 0.91 | 0.52 | 0.68 | 1.21 |
| Emergency Speeding >15mph | Count | n |  | 0.89 | 0.54 | 0.61 | 1.29 |  | 1.30 | 0.13 | 0.92 | 1.83 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Emergency Driving\* | Distance | km |  | 0.97 | 0.04 | 0.93 | 1.00 |  | 1.01 | 0.53 | 0.97 | 1.05 |
| Hard Acceleration | Distance | m |  | 0.87 | 0.32 | 0.66 | 1.14 |  | 1.00 | 0.74 | 1.00 | 1.01 |
| Harsh Braking | Distance | m |  | 1.03 | 0.73 | 0.86 | 1.24 |  | 1.03 | 0.67 | 0.90 | 1.18 |
| Hard cornering | Distance | m |  | 1.00 | 0.87 | 0.99 | 1.01 |  | 1.00 | 0.23 | 1.00 | 1.01 |
| Speeding >05mph | Distance | km |  | 1.04 | 0.43 | 0.94 | 1.15 |  | 0.94 | 0.55 | 0.76 | 1.16 |
| Speeding >10mph | Distance | km |  | 1.10 | 0.20 | 0.95 | 1.28 |  | 1.02 | 0.89 | 0.75 | 1.39 |
| Speeding >15mph\* | Distance | km |  | 1.35 | 0.03 | 1.03 | 1.77 |  | 2.09 | 0.01 | 1.19 | 3.66 |
| Emergency Speeding >05mph | Distance | km |  | 0.95 | 0.39 | 0.84 | 1.07 |  | 0.95 | 0.61 | 0.77 | 1.17 |
| Emergency Speeding >10mph | Distance | km |  | 0.97 | 0.80 | 0.79 | 1.19 |  | 0.96 | 0.83 | 0.68 | 1.36 |
| Emergency Speeding >15mph\* | Distance | km |  | 1.01 | 0.95 | 0.68 | 1.51 |  | 1.65 | 0.03 | 1.06 | 2.57 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Emergency Driving\* | Time | min |  | 0.97 | 0.03 | 0.94 | 1.00 |  | 1.00 | 0.58 | 0.99 | 1.02 |
| Hard Acceleration | Time | s |  | 0.91 | 0.74 | 0.54 | 1.54 |  | 1.01 | 0.61 | 0.96 | 1.07 |
| Harsh Braking\* | Time | s |  | 2.56 | 0.00 | 1.35 | 4.87 |  | 2.27 | 0.00 | 1.38 | 3.73 |
| Hard cornering | Time | s |  | 1.00 | 0.92 | 0.94 | 1.06 |  | 1.03 | 0.24 | 0.98 | 1.08 |
| Speeding >05mph | Time | min |  | 1.05 | 0.58 | 0.89 | 1.23 |  | 0.92 | 0.55 | 0.69 | 1.22 |
| Speeding >10mph | Time | min |  | 1.17 | 0.20 | 0.92 | 1.49 |  | 1.07 | 0.75 | 0.70 | 1.64 |
| Speeding >15mph\* | Time | min |  | 1.70 | 0.01 | 1.12 | 2.58 |  | 2.97 | 0.01 | 1.36 | 6.46 |
| Emergency Speeding >05mph | Time | min |  | 0.93 | 0.38 | 0.78 | 1.10 |  | 0.92 | 0.58 | 0.69 | 1.23 |
| Emergency Speeding >10mph | Time | min |  | 0.98 | 0.89 | 0.73 | 1.32 |  | 0.99 | 0.95 | 0.63 | 1.55 |
| Emergency Speeding >15mph\* | Time | min |  | 1.14 | 0.63 | 0.67 | 1.93 |  | 2.13 | 0.01 | 1.19 | 3.82 |
| \* statistically significant in at least one department | | | | | | | | | | | | |

**Table A5.** Sensitivity analysis excluding non-preventable crashes. Odds ratio (OR) for each driving rule and domain, stratified by department.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Department A** | | | |  | **Department B** | | | |
| **Rule** | **Type** | **Unit** | **OR** | **P** | **95%CI** | |  | **OR** | **P** | **95%CI** | |
| Emergency Driving | Count | n | 0.96 | 0.41 | 0.86 | 1.07 |  | 1.02 | 0.54 | 0.95 | 1.11 |
| Hard Acceleration | Count | n | 1.07 | 0.68 | 0.77 | 1.50 |  | 1.13 | 0.09 | 0.98 | 1.31 |
| Harsh Braking | Count | n | 2.30 | 0.02 | 1.13 | 4.69 |  | 1.61 | 0.00 | 1.16 | 2.22 |
| Hard Cornering | Count | n | 0.98 | 0.62 | 0.89 | 1.07 |  | 1.16 | 0.00 | 1.05 | 1.29 |
| Speeding >05mph | Count | n | 0.97 | 0.62 | 0.85 | 1.10 |  | 1.03 | 0.74 | 0.88 | 1.19 |
| Speeding >10mph | Count | n | 1.04 | 0.65 | 0.88 | 1.22 |  | 1.10 | 0.53 | 0.82 | 1.48 |
| Speeding >15mph | Count | n | 1.10 | 0.51 | 0.83 | 1.48 |  | 1.68 | 0.00 | 1.17 | 2.42 |
| Emergency Speeding >05mph | Count | n | 0.94 | 0.26 | 0.84 | 1.05 |  | 0.98 | 0.86 | 0.83 | 1.17 |
| Emergency Speeding >10mph | Count | n | 0.93 | 0.46 | 0.78 | 1.12 |  | 0.97 | 0.83 | 0.71 | 1.31 |
| Emergency Speeding >15mph | Count | n | 0.91 | 0.63 | 0.63 | 1.32 |  | 1.47 | 0.02 | 1.06 | 2.04 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Emergency Driving | Distance | km | 1.00 | 0.08 | 0.94 | 1.00 |  | 1.01 | 0.59 | 0.97 | 1.06 |
| Hard Acceleration | Distance | m | 0.97 | 0.35 | 0.67 | 1.15 |  | 1.00 | 0.64 | 1.00 | 1.01 |
| Harsh Braking | Distance | m | 0.88 | 0.71 | 0.87 | 1.24 |  | 1.04 | 0.59 | 0.91 | 1.19 |
| Hard Cornering | Distance | m | 1.03 | 1.00 | 0.99 | 1.01 |  | 1.00 | 0.14 | 1.00 | 1.01 |
| Speeding >05mph | Distance | km | 1.00 | 0.74 | 0.91 | 1.14 |  | 0.99 | 0.94 | 0.81 | 1.21 |
| Speeding >10mph | Distance | km | 1.02 | 0.55 | 0.88 | 1.28 |  | 1.08 | 0.50 | 0.86 | 1.36 |
| Speeding >15mph | Distance | km | 1.06 | 0.11 | 0.94 | 1.76 |  | 2.35 | 0.00 | 1.32 | 4.18 |
| Emergency Speeding >05mph | Distance | km | 1.29 | 0.52 | 0.85 | 1.09 |  | 1.00 | 0.97 | 0.80 | 1.23 |
| Emergency Speeding >10mph | Distance | km | 0.96 | 0.94 | 0.81 | 1.21 |  | 1.05 | 0.73 | 0.81 | 1.36 |
| Emergency Speeding >15mph | Distance | km | 0.99 | 0.86 | 0.70 | 1.53 |  | 1.93 | 0.00 | 1.25 | 2.98 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Emergency Driving | Time | min | 0.97 | 0.07 | 0.94 | 1.00 |  | 1.00 | 0.76 | 0.98 | 1.03 |
| Hard Acceleration | Time | s | 0.94 | 0.80 | 0.57 | 1.54 |  | 1.02 | 0.50 | 0.97 | 1.07 |
| Harsh Braking | Time | s | 2.61 | 0.00 | 1.37 | 4.96 |  | 2.37 | 0.00 | 1.43 | 3.91 |
| Hard Cornering | Time | s | 1.00 | 0.93 | 0.95 | 1.06 |  | 1.04 | 0.15 | 0.99 | 1.09 |
| Speeding >05mph | Time | min | 1.01 | 0.88 | 0.85 | 1.21 |  | 0.99 | 0.96 | 0.75 | 1.31 |
| Speeding >10mph | Time | min | 1.11 | 0.49 | 0.83 | 1.48 |  | 1.18 | 0.36 | 0.83 | 1.65 |
| Speeding >15mph | Time | min | 1.61 | 0.04 | 1.02 | 2.54 |  | 3.47 | 0.00 | 1.55 | 7.80 |
| Emergency Speeding >05mph | Time | min | 0.95 | 0.53 | 0.79 | 1.13 |  | 0.98 | 0.92 | 0.73 | 1.33 |
| Emergency Speeding >10mph | Time | min | 1.01 | 0.97 | 0.75 | 1.34 |  | 1.11 | 0.58 | 0.77 | 1.61 |
| Emergency Speeding >15mph | Time | min | 1.18 | 0.54 | 0.70 | 1.97 |  | 2.58 | 0.00 | 1.45 | 4.60 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table A6.** Odds ratio (OR) for each driving rule and domain, stratified by department (emergency response crashes only). | | | | | | | | | | | | |
|  |  |  |  | **Department A** | | | |  | **Department B** | | | |
| **Driving Rule** | **Type** | **Unit** |  | **OR** | **p** | **95%CI** | |  | **OR** | **p** | **95%CI** | |
| Emergency Driving | Count | n |  | 0.84 | 0.08 | 0.68 | 1.02 |  | 1.02 | 0.66 | 0.93 | 1.13 |
| Hard Acceleration | Count | n |  | 0.88 | 0.70 | 0.45 | 1.72 |  | 1.09 | 0.45 | 0.87 | 1.38 |
| Harsh Braking\* | Count | n |  | 2.82 | 0.01 | 1.34 | 5.94 |  | 1.65 | 0.005 | 1.17 | 2.34 |
| Harsh Cornering\* | Count | n |  | 0.98 | 0.73 | 0.86 | 1.11 |  | 1.15 | 0.04 | 1.01 | 1.32 |
| Speeding >05mph | Count | n |  | 0.89 | 0.32 | 0.72 | 1.11 |  | 1.09 | 0.28 | 0.93 | 1.28 |
| Speeding >10mph | Count | n |  | 0.97 | 0.83 | 0.70 | 1.33 |  | 1.05 | 0.81 | 0.69 | 1.61 |
| Speeding >15mph\* | Count | n |  | 1.10 | 0.60 | 0.76 | 1.60 |  | 1.72 | 0.02 | 1.11 | 2.68 |
| Emergency Speeding >05mph | Count | n |  | 0.97 | 0.64 | 0.84 | 1.11 |  | 1.01 | 0.90 | 0.83 | 1.24 |
| Emergency Speeding >10mph | Count | n |  | 1.01 | 0.94 | 0.83 | 1.22 |  | 1.00 | 0.99 | 0.69 | 1.45 |
| Emergency Speeding >15mph | Count | n |  | 1.01 | 0.95 | 0.69 | 1.49 |  | 1.50 | 0.05 | 1.00 | 2.24 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Emergency Driving | Distance | km |  | 0.96 | 0.08 | 0.92 | 1.00 |  | 1.00 | 0.90 | 0.94 | 1.07 |
| Hard Acceleration | Distance | m |  | 0.86 | 0.47 | 0.57 | 1.29 |  | 0.98 | 0.74 | 0.89 | 1.08 |
| Harsh Braking | Distance | m |  | 1.05 | 0.53 | 0.90 | 1.24 |  | 1.05 | 0.48 | 0.92 | 1.19 |
| Harsh Cornering | Distance | m |  | 1.00 | 0.96 | 0.99 | 1.01 |  | 0.99 | 0.78 | 0.95 | 1.04 |
| Speeding >05mph | Distance | km |  | 0.96 | 0.69 | 0.80 | 1.16 |  | 1.03 | 0.77 | 0.84 | 1.26 |
| Speeding >10mph | Distance | km |  | 0.94 | 0.78 | 0.63 | 1.42 |  | 1.09 | 0.59 | 0.80 | 1.47 |
| Speeding >15mph\* | Distance | km |  | 1.23 | 0.34 | 0.80 | 1.89 |  | 2.62 | 0.003 | 1.39 | 4.95 |
| Emergency Speeding >05mph | Distance | km |  | 0.98 | 0.83 | 0.85 | 1.14 |  | 1.01 | 0.95 | 0.77 | 1.32 |
| Emergency Speeding >10mph | Distance | km |  | 1.06 | 0.55 | 0.87 | 1.30 |  | 1.08 | 0.54 | 0.84 | 1.40 |
| Emergency Speeding >15mph\* | Distance | km |  | 1.16 | 0.41 | 0.81 | 1.66 |  | 2.18 | 0.002 | 1.34 | 3.54 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Emergency Driving | Time | min |  | 0.96 | 0.07 | 0.92 | 1.00 |  | 0.99 | 0.73 | 0.96 | 1.03 |
| Hard Acceleration | Time | s |  | 1.00 | 0.98 | 0.67 | 1.48 |  | 0.99 | 0.95 | 0.83 | 1.20 |
| Harsh Braking\* | Time | s |  | 2.92 | 0.002 | 1.50 | 5.67 |  | 2.40 | 0.002 | 1.38 | 4.15 |
| Harsh Cornering | Time | s |  | 1.01 | 0.77 | 0.94 | 1.08 |  | 1.04 | 0.14 | 0.99 | 1.10 |
| Speeding >05mph | Time | min |  | 0.95 | 0.72 | 0.73 | 1.24 |  | 1.06 | 0.69 | 0.79 | 1.42 |
| Speeding >10mph | Time | min |  | 0.99 | 0.98 | 0.61 | 1.62 |  | 1.19 | 0.43 | 0.77 | 1.83 |
| Speeding >15mph\* | Time | min |  | 1.58 | 0.11 | 0.90 | 2.77 |  | 3.97 | 0.003 | 1.62 | 9.72 |
| Emergency Speeding >05mph | Time | min |  | 0.99 | 0.90 | 0.80 | 1.22 |  | 1.02 | 0.92 | 0.71 | 1.47 |
| Emergency Speeding >10mph | Time | min |  | 1.14 | 0.40 | 0.84 | 1.54 |  | 1.18 | 0.39 | 0.81 | 1.71 |
| Emergency Speeding >15mph\* | Time | min |  | 1.40 | 0.18 | 0.86 | 2.28 |  | 2.97 | 0.001 | 1.56 | 5.62 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| **Table A7.** Final least absolute shrinkage and selection operator (LASSO) model variables and coefficients. Zero coefficients are not included in final model. | |
| **Variable** | **Coefficient** |
| (Intercept) | -6.0111996 |
| Distance Driven | 0.00509726 |
| Department (Indicator) | 0.07063533 |
| Emergency Driving Count | 0.07276492 |
| Hard Acceleration Count | 0.06784334 |
| Harsh Braking Count | 0.01315489 |
| Harsh Cornering Count | 0.00459052 |
| Speeding >05mph Count | -0.0902845 |
| Speeding >10mph Count | 0.08855591 |
| Speeding >15mph Count | 0 |
| Emergency Speeding >05mph Count | 0 |
| Emergency Speeding >10mph Count | -0.2037545 |
| Emergency Speeding >15mph Count | -0.1004423 |
| Emergency Driving Distance (km) | -0.0104384 |
| Hard Acceleration Distance (m) | 0 |
| Harsh Braking Distance (m) | -0.7033016 |
| Harsh Cornering Distance (m) | 0.00099352 |
| Speeding >05mph Distance (km) | 0.04180281 |
| Speeding >10mph Distance (km) | 0 |
| Speeding >15mph Distance (km) | 1.00372143 |
| Emergency Speeding >05mph Distance (km) | 0 |
| Emergency Speeding >10mph Distance (km) | 0 |
| Emergency Speeding >15mph Distance (km) | 0 |
| Emergency Driving Time (minutes) | -0.0252445 |
| Hard Acceleration Time (seconds) | -0.0077095 |
| Harsh Braking Time (seconds) | 1.22259048 |
| Harsh Cornering Time (seconds) | 0.00013203 |
| Speeding >05mph Time (minutes) | 0 |
| Speeding >10mph Time (minutes) | -0.2400625 |
| Speeding >15mph Time (minutes) | -1.1192982 |
| Emergency Speeding >05mph Time (minutes) | 0.01493262 |
| Emergency Speeding >10mph Time (minutes) | 0.2036917 |
| Emergency Speeding >15mph Time (minutes) | 0.42093789 |