As with any statistical output, you get A LOT. Some of it is really important, some isn't. Below is an annotated output that describes what things you need to pay attention to in you logistic regression output

## Logistic Regression

**Case Processing Summary**

| Unweighted Cases[a] | | N | Percent |
|---|---|---|---|
| Selected Cases | Included in Analysis | 109 | 99.1 |
| | Missing Cases | 1 | .9 |
| | Total | 110 | 100.0 |
| | Unselected Cases | 0 | .0 |
| | Total | 110 | 100.0 |

a. If weight is in effect, see classification table for the total number of cases.

**Dependent Variable Encoding**

| Original Value | Internal Value |
|---|---|
| 0 | 0 |
| 1 | 1 |

## Block 0: Beginning Block

**Classification Table[a,b]**

| Observed | | | Predicted | | |
|---|---|---|---|---|---|
| | | | ticket | | |
| | | | 0 | 1 | Percentage Correct |
| Step 0 | ticket | 0 | 60 | 0 | 100.0 |
| | | 1 | 49 | 0 | .0 |
| | | Overall Percentage | | | 55.0 |

a. Constant is included in the model.

b. The cut value is .500

This box tells you how well SPSS can predict the outcome of the regression without any additional information. It based on the distribution of the dependent variable.

**Variables in the Equation**

**Variables not in the Equation**

| | | | Score | df | Sig. |
|---|---|---|---|---|---|
| Step 0 | Variables | minority | 12.834 | 1 | .000 |
| | | female | 3.328 | 1 | .068 |
| | | mphpct | 13.242 | 1 | .000 |
| | | Overall Statistics | 24.462 | 3 | .000 |

## Block 1: Method = Enter

**Omnibus Tests of Model Coefficients**

| | | Chi-square | df | Sig. |
|---|---|---|---|---|
| Step 1 | Step | 27.514 | 3 | .000 |
| | Block | 27.514 | 3 | .000 |
| | Model | 27.514 | 3 | .000 |

**Model Summary**

| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
|---|---|---|---|
| 1 | 122.481[a] | .223 | .298 |

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Because logistic regression is not based on the formula for a line (like linear regression is), there's not a similar calculation to R square in linear regression. However, some super smarties came up with some ways to estimate an R-square-like measure – that's why they're called "pseudo" r square. You will never get one that is very high. So don't freak out.

**Hosmer and Lemeshow Test**

| Step | Chi-square | df | Sig. |
|---|---|---|---|
| 1 | 6.849 | 8 | .553 |

This is one of those upside down measures. You want the sig here to be >05. That means that the data fits your model.

**Classification Table[a]**

| Observed | | Predicted ticket 0 | Predicted ticket 1 | Percentage Correct |
|---|---|---|---|---|
| Step 1 | ticket 0 | 49 | 11 | 81.7 |
| | 1 | 23 | 26 | 53.1 |

This box tells you how well SPSS can predict the outcome with the added information of the independent variables. See –

Two columns are important in this table. This column is what's known as the "odds multiplier." It basically tells you how strong your variable is. This one tells you that minorities have 6.8 times the likelihood of getting a ticket as non-minorities. Females have about half the likelihood as males. The percent miles per hour over, slightly increases the likelihood that someone will be ticketed. Continuous variables are harder to interpret.

**Variables in the Equation**

| | | B | S.E. | Wald | df | Sig. | Exp(B) |
|---|---|---|---|---|---|---|---|
| Step 1 | minority | 1.921 | .688 | 7.793 | 1 | .005 | 6.825 |
| | female | -.824 | .453 | 3.304 | 1 | .069 | .439 |
| | mphpct | .086 | .028 | 9.179 | 1 | .002 | 1.089 |
| | Constant | -3.524 | 1.133 | 9.681 | 1 | .002 | .029 |

This column tells you whether the next column Exp(B) means anything. It needs to be <.05 – otherwise, what you get in the next column might just happen by chance. Anything that is not significant here should be removed.