

# Risk Analysis Report

## Risk Analysis Report

### Descriptive Statistics

#### Veh\_age

veh\_age count

3 2237

4 2058

2 1830

1 1339

#### Veh\_body

veh\_body count

SEDAN 2435

HBACK 2122

STNWG 1774

UTE 485

TRUCK 189

HDTOP 176

PANVN 89

COUPE 82

MIBUS 78

MCARA 16

CONVT 7

BUS 6

RDSTR 5

#### Veh\_value

index veh\_value

count 7464.000000

## Risk Analysis Report

mean 1.003805

std 0.376802

min 0.000000

25% 0.747162

50% 0.970400

75% 1.210154

max 2.980619

### **Risk\_group**

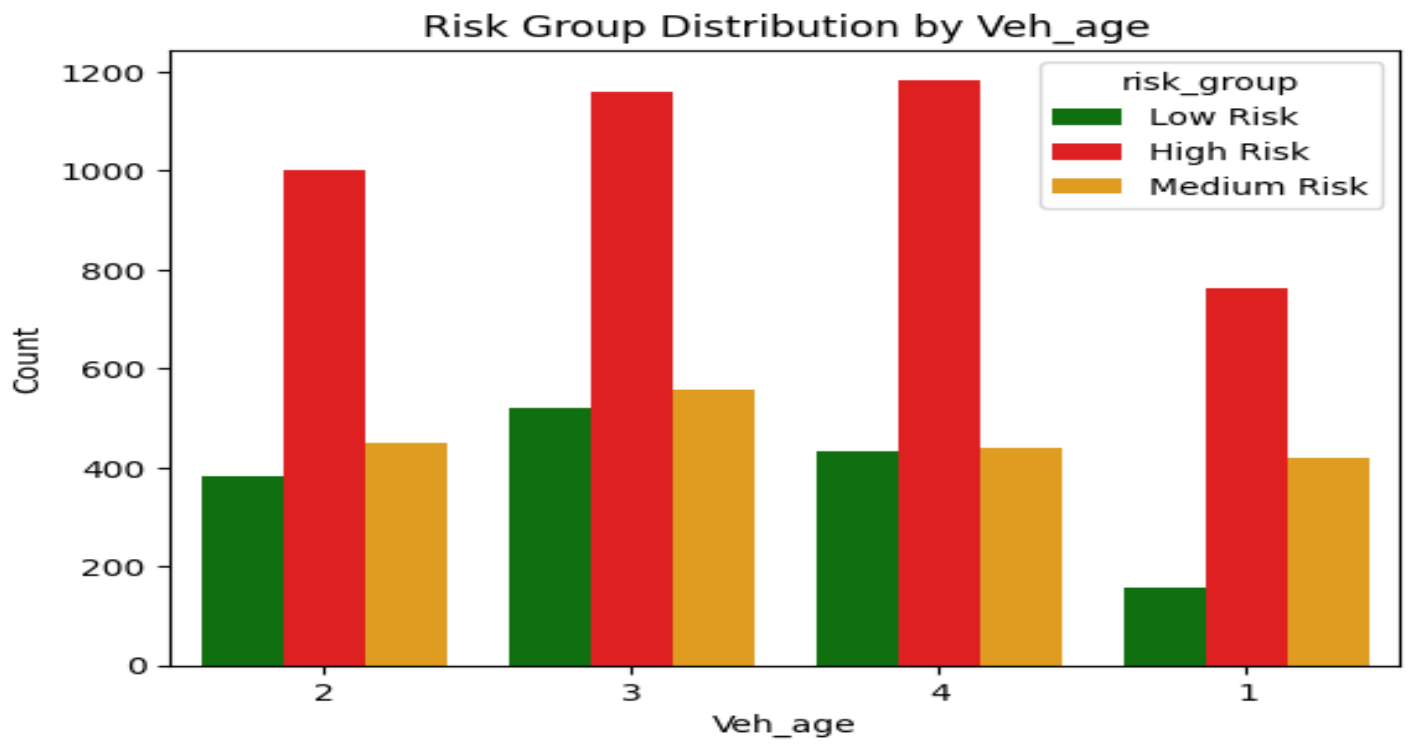
risk\_group count

High Risk 4105

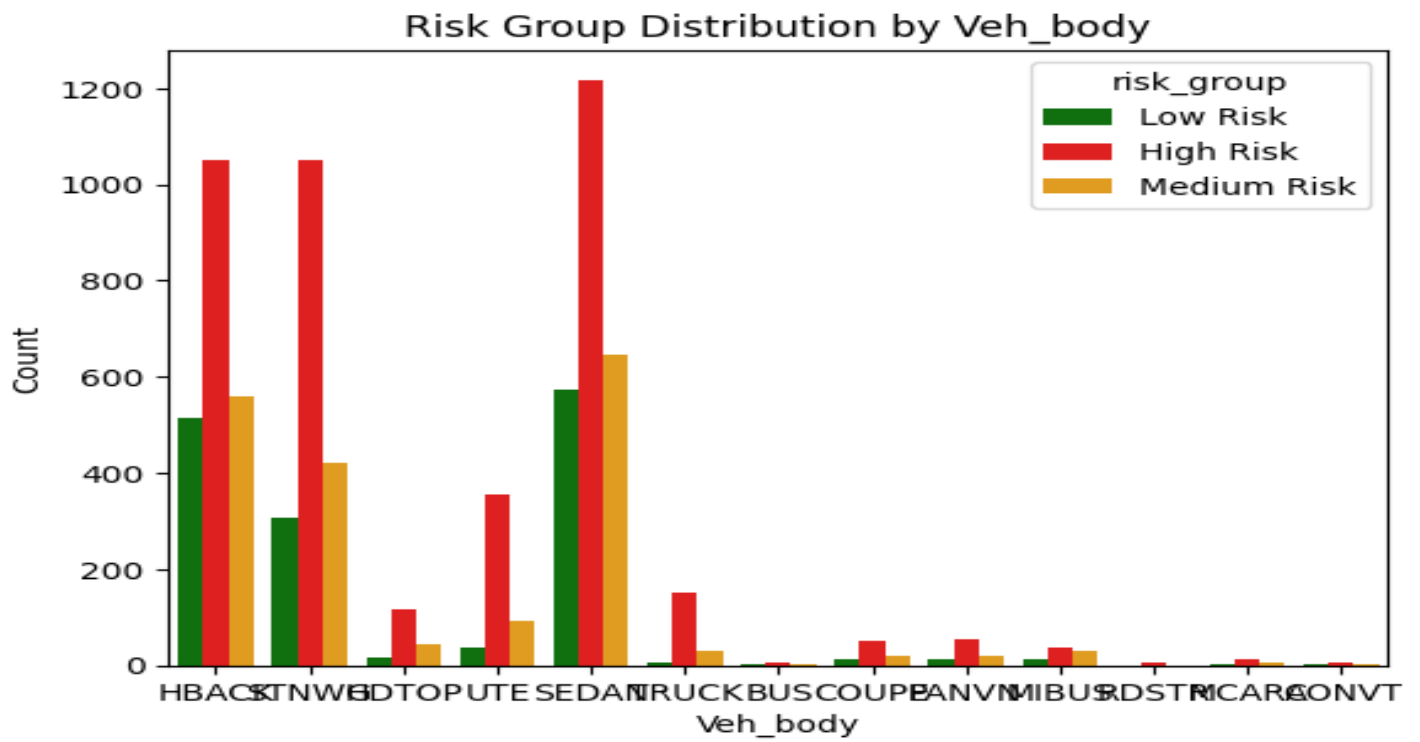
Medium Risk 1866

Low Risk 1493

## Risk Analysis Report

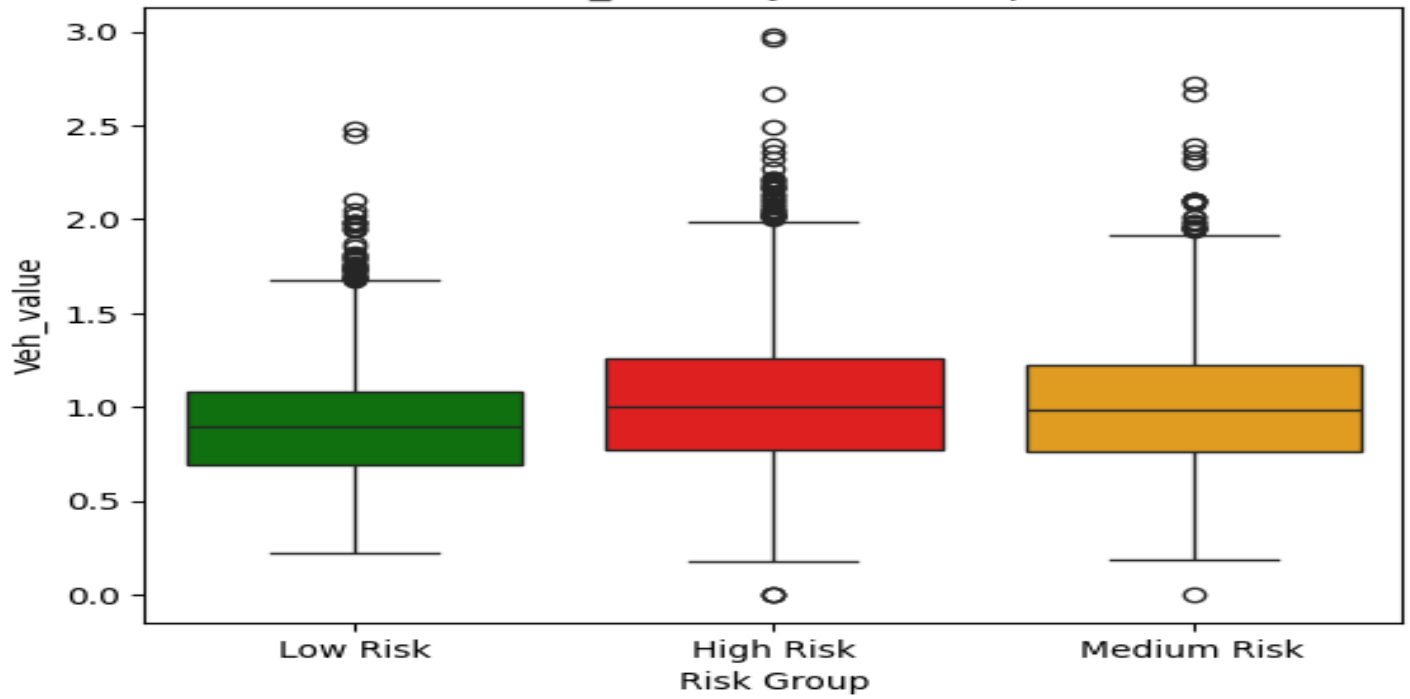


## Risk Analysis Report

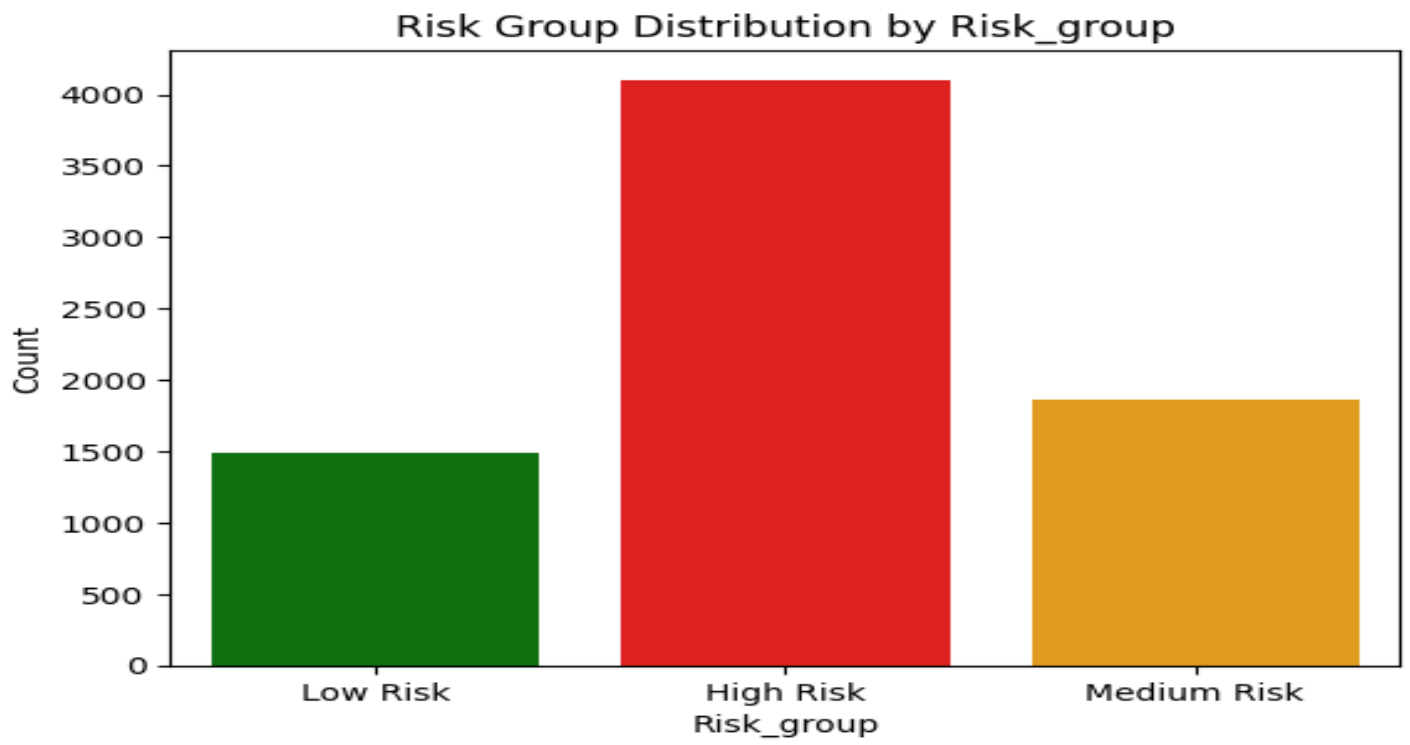


## Risk Analysis Report

Veh\_value by Risk Group



## Risk Analysis Report



## Risk Analysis Report

### Hypothesis Testing Results

Veh\_age

Chi2 p value: 3.069463657648485e-19

Standardized residuals: risk\_group High Risk Low Risk Medium Risk

veh\_age

|   |           |           |           |
|---|-----------|-----------|-----------|
| 1 | 0.979693  | -6.772453 | 4.604788  |
| 2 | -0.203343 | 0.781447  | -0.397396 |
| 3 | -2.060985 | 3.476537  | -0.052858 |
| 4 | 1.550257  | 1.101313  | -3.284457 |

Veh\_body

Chi2 p value: 3.419685353113855e-35

Standardized residuals: risk\_group High Risk Low Risk Medium Risk

veh\_body

|       |           |           |           |
|-------|-----------|-----------|-----------|
| BUS   | 0.385435  | -0.182709 | -0.408248 |
| CONVT | 0.076545  | -0.338198 | 0.188982  |
| COUPE | 0.729984  | -0.593141 | -0.552158 |
| HBACK | -3.455392 | 4.297720  | 1.280794  |
| HDTOP | 1.850362  | -3.236737 | 0.150756  |
| MCARA | 0.741782  | -1.229995 | 0.000000  |
| MIBUS | -0.747813 | -0.911934 | 1.924871  |
| PANVN | 0.865089  | -1.138198 | -0.264999 |
| RDSTR | 1.356915  | -1.000067 | -1.118034 |
| SEDAN | -3.311523 | 3.893815  | 1.428695  |
| STNWG | 2.380230  | -2.646201 | -1.163374 |
| TRUCK | 4.615351  | -5.010108 | -2.364027 |



## Risk Analysis Report

UTE 5.404270 -6.092988 -2.565533

Veh\_value

Normality high risk: 6.840185364167281e-21

Normality low risk: 1.5256685700554263e-16

Normality medium risk: 2.667331917122468e-13

Levene p value: 5.712552248066667e-10

Kruskal wallis p value: 2.215164134146564e-24

Dunn test: High Risk Low Risk Medium Risk

High Risk 1.000000e+00 3.013130e-24 7.370741e-01

Low Risk 3.013130e-24 1.000000e+00 3.678411e-15

Medium Risk 7.370741e-01 3.678411e-15 1.000000e+00

## Risk Analysis Report

### Analysis Log

Analyzing veh\_age...

Chi-Square Statistic: 99.58

Degrees of Freedom: 6

P-value: 0.000

Expected Frequencies:

| risk_group | High Risk | Low Risk | Medium Risk |
|------------|-----------|----------|-------------|
|------------|-----------|----------|-------------|

| veh_age | High Risk | Low Risk | Medium Risk |
|---------|-----------|----------|-------------|
|---------|-----------|----------|-------------|

|   |            |            |        |
|---|------------|------------|--------|
| 1 | 736.414121 | 267.835879 | 334.75 |
|---|------------|------------|--------|

|   |             |            |        |
|---|-------------|------------|--------|
| 2 | 1006.450965 | 366.049035 | 457.50 |
|---|-------------|------------|--------|

|   |             |            |        |
|---|-------------|------------|--------|
| 3 | 1230.290059 | 447.459941 | 559.25 |
|---|-------------|------------|--------|

|   |             |            |        |
|---|-------------|------------|--------|
| 4 | 1131.844855 | 411.655145 | 514.50 |
|---|-------------|------------|--------|

Chi-Square test significant, calculating standardized residuals...

Standardized Residuals:

| risk_group | High Risk | Low Risk | Medium Risk |
|------------|-----------|----------|-------------|
|------------|-----------|----------|-------------|

| veh_age | High Risk | Low Risk | Medium Risk |
|---------|-----------|----------|-------------|
|---------|-----------|----------|-------------|

|   |          |           |          |
|---|----------|-----------|----------|
| 1 | 0.979693 | -6.772453 | 4.604788 |
|---|----------|-----------|----------|

|   |           |          |           |
|---|-----------|----------|-----------|
| 2 | -0.203343 | 0.781447 | -0.397396 |
|---|-----------|----------|-----------|

|   |           |          |           |
|---|-----------|----------|-----------|
| 3 | -2.060985 | 3.476537 | -0.052858 |
|---|-----------|----------|-----------|

|   |          |          |           |
|---|----------|----------|-----------|
| 4 | 1.550257 | 1.101313 | -3.284457 |
|---|----------|----------|-----------|

Analyzing veh\_body...

Chi-Square Statistic: 228.13

## Risk Analysis Report

Degrees of Freedom: 24

P-value: 0.000

Expected Frequencies:

| risk_group | High Risk   | Low Risk   | Medium Risk |
|------------|-------------|------------|-------------|
| veh_body   |             |            |             |
| BUS        | 3.299839    | 1.200161   | 1.50        |
| CONVT      | 3.849812    | 1.400188   | 1.75        |
| COUPE      | 45.097803   | 16.402197  | 20.50       |
| HBACK      | 1167.043140 | 424.456860 | 530.50      |
| HDTOP      | 96.795284   | 35.204716  | 44.00       |
| MCARA      | 8.799571    | 3.200429   | 4.00        |
| MIBUS      | 42.897910   | 15.602090  | 19.50       |
| PANVN      | 48.947615   | 17.802385  | 22.25       |
| RDSTR      | 2.749866    | 1.000134   | 1.25        |
| SEDAN      | 1339.184753 | 487.065247 | 608.75      |
| STNWG      | 975.652465  | 354.847535 | 443.50      |
| TRUCK      | 103.944936  | 37.805064  | 47.25       |
| UTE        | 266.737004  | 97.012996  | 121.25      |

Chi-Square test significant, calculating standardized residuals...

Standardized Residuals:

| risk_group | High Risk | Low Risk  | Medium Risk |
|------------|-----------|-----------|-------------|
| veh_body   |           |           |             |
| BUS        | 0.385435  | -0.182709 | -0.408248   |
| CONVT      | 0.076545  | -0.338198 | 0.188982    |

## Risk Analysis Report

|       |           |           |           |
|-------|-----------|-----------|-----------|
| COUPE | 0.729984  | -0.593141 | -0.552158 |
| HBACK | -3.455392 | 4.297720  | 1.280794  |
| HDTOP | 1.850362  | -3.236737 | 0.150756  |
| MCARA | 0.741782  | -1.229995 | 0.000000  |
| MIBUS | -0.747813 | -0.911934 | 1.924871  |
| PANVN | 0.865089  | -1.138198 | -0.264999 |
| RDSTR | 1.356915  | -1.000067 | -1.118034 |
| SEDAN | -3.311523 | 3.893815  | 1.428695  |
| STNWG | 2.380230  | -2.646201 | -1.163374 |
| TRUCK | 4.615351  | -5.010108 | -2.364027 |
| UTE   | 5.404270  | -6.092988 | -2.565533 |

Analyzing veh\_value...

Normality test for High Risk - Statistics=0.984, p-value=0.000

Normality test for Low Risk - Statistics=0.972, p-value=0.000

Normality test for Medium Risk - Statistics=0.985, p-value=0.000

Levene's test for equal variances - Statistics=21.344, p-value=0.000

Assumptions for ANOVA not met, proceeding with Kruskal-Wallis test.

Kruskal-Wallis Test result: H-Statistic=108.933, P-Value=0.000

Kruskal-Wallis significant, performing Dunn's test...

|  |           |          |             |
|--|-----------|----------|-------------|
|  | High Risk | Low Risk | Medium Risk |
|--|-----------|----------|-------------|

|           |              |              |              |
|-----------|--------------|--------------|--------------|
| High Risk | 1.000000e+00 | 3.013130e-24 | 7.370741e-01 |
|-----------|--------------|--------------|--------------|

|          |              |              |              |
|----------|--------------|--------------|--------------|
| Low Risk | 3.013130e-24 | 1.000000e+00 | 3.678411e-15 |
|----------|--------------|--------------|--------------|

|             |              |              |              |
|-------------|--------------|--------------|--------------|
| Medium Risk | 7.370741e-01 | 3.678411e-15 | 1.000000e+00 |
|-------------|--------------|--------------|--------------|