**Model Details**

Start time.........: 03:32:10 PM, 09/12/2022

DepVar: GRAFFIT

N: 838

Df: 826

Sample number: ......... 1.

The number of cases: ......... 838.

Start time...........: 03:34:36 PM, 09/12/2022

Type of regression model: Poisson-Gamma-CAR

Method of estimation: MCMC

Distance decay function: Negative exponential

Number of iterations: 25000

Burn in: 5000

Block size: 838

Number of samples: 1

Average block sample size: 838.00

Likelihood statistics

Log-likelihood: -4140.566994

Per case: -4.941011

DIC: 8302.117603

AIC: 8305.133987

Per case: 9.910661

BIC/SC: 8361.906204

Per case: 9.978408

Deviance: 1084.332121 P-value of Deviance: 0.0001

Pearson Chi-Square: 1252.617343 P-value of Chi-Square: 0.0001

Model error estimates

Mean absolute deviation: 42.536447

1st (highest) quartile: 82.135625

2nd quartile: 22.890517

3rd quartile: 29.727732

4th (lowest) quartile: 35.459634

Mean squared predicted error: 4440.866597

1st (highest) quartile: 11697.116036

2nd quartile: 1661.161414

3rd quartile: 2118.008781

4th (lowest) quartile: 2307.594247

Dispersion tests

Adjusted deviance: 1.312751 P-value of Deviance: n.s.

Adjusted Pearson Chi-Square: 1.516486 P-value of Chi-Square: n.s.

Dispersion multiplier: 0.772589 Z = 55.230954 P-value of Z: 0.0001

Inverse dispersion multiplier: 1.294349

Condition number of distance matrix: 107.211717

Condition number of matrix CD-1: 22.225026

MC error/

Mean Std t-value p-value MC error std G-R stat

---------------------------------------------------------------------------------------------------------------

Intercept: 2.899861 0.104654 27.708903 0.001 0.003320 0.031728 1.004228

FACTOR: 0.167561 0.069961 2.395047 0.020 0.001348 0.019272 1.001894

VANRATE: 0.006537 0.001622 4.030418 0.001 0.000024 0.014894 1.001090

PROP\_M\_Y: 4.648742 0.850037 5.468873 0.001 0.021737 0.025572 1.003868

P\_HUB\_A: -0.003399 0.013343 -0.254748 n.s. 0.000167 0.012543 1.000526

P\_PARK\_A: 0.056242 0.009768 5.757572 0.001 0.000143 0.014626 1.001644

P\_SKOLAN\_A: 0.023122 0.009359 2.470572 0.020 0.000110 0.011727 0.999987

P\_UNEMPLOY: -0.411386 0.215699 -1.907218 n.s. 0.002464 0.011423 1.000064

AREA: 7.0501e-007 9.0743e-008 7.769356 0.001 1.9768e-009 0.021785 1.001440

NEAR\_DIST: -0.000020 0.000011 -1.721974 n.s. 3.4249e-007 0.029947 1.003586

Spatial autocorrelation

(Phi): -0.003428 0.013877 -0.247004 n.s. 0.000186 0.013411 1.000788

---------------------------------------------------------------------------------------------------------------

Global component

(Rho): 0.052351 0.044191 1.184662 n.s. 0.000588 0.013309 1.000345

Local component

(Tauphi): 0.192607 0.124067 1.552437 n.s. 0.009398 0.075745 1.042172

Neighborhood component

(Alpha: defined) -0.000621 Meters

End time.........: 03:47:07 PM, 09/12/2022

**Diagnostics**

Check that these values are appropriate:

Minimum value Maximum value

--------------- ---------------

GRAFFIT 0.000000 474.000000

FACTOR 0.000000 1.000000

VANRATE 0.011300 368.078300

PROP\_M\_Y 0.000100 0.376700

P\_HUB\_A 0.000100 27.996900

P\_PARK\_A 0.000100 28.138000

P\_SKOLAN\_A 0.000100 48.045100

P\_UNEMPLOY 0.000100 2.390000

AREA 13695.000000 3853125.740000

NEAR\_DIST 0.000000 17850.950000

Test for skewness in the dependent variable:

g = 2.480786

SES = 0.084616

Z = 29.318087

p = 0.001

Ratio of simple variance to simple mean = 74.681235

Message:

The dependent variable is skewed and there is evidence of over-dispersion.

Run an MLE or MCMC Poisson-Gamma regression model.

If the dispersion parameter in the Poisson-Gamma model is significant,

accept the results of that model.

If the dispersion parameter in the Poisson-Gamma model is not significant and is very close to 0,

run an MLE Poisson regression model.

If the dispersion parameter in the Poisson-Gamma model is negative,

run a Poisson with Linear Correction regression model.

Test for spatial autocorrelation:

Moran's I = 0.062784

P-value (one tail)= 0.0001

There is definite spatial autocorrelation in your dependent variable.

Use a spatial regression model or account for the spatial effect with a proxy variable.

Estimate of appropriate alpha value:

Mean Nearest Neighbor Distance ..: 0.000000 mi, 0.000000 ft, 0.000000 km, 0.000000 m

Recommended values for alpha

Spatial weight alpha (miles) alpha (feet) alpha (km) alpha(meters)

-------------- ------------- ------------ ---------- --------------

0.90 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.75 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.50 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

Pseudo-tolerance test for independent variables

Predictor Pseudo-tolerance

--------- -----------------------

FACTOR 1.000000

VANRATE 0.787192

PROP\_M\_Y 0.939357

P\_HUB\_A 0.831415

P\_PARK\_A 0.942130

P\_SKOLAN\_A 0.932296

P\_UNEMPLOY 0.969521

AREA 0.779515

NEAR\_DIST 0.717571

Probable multicollinearity.

Eliminate variable with low tolerance and re-run.

Littering

Start time.........: 03:48:21 PM, 09/12/2022

DepVar: LITTER

N: 838

Df: 826

Sample number: ......... 1.

The number of cases: ......... 838.

Start time...........: 03:49:27 PM, 09/12/2022

Type of regression model: Poisson-Gamma-CAR

Method of estimation: MCMC

Distance decay function: Negative exponential

Number of iterations: 25000

Burn in: 5000

Block size: 838

Number of samples: 1

Average block sample size: 838.00

Likelihood statistics

Log-likelihood: -3828.605470

Per case: -4.568742

DIC: 7630.002428

AIC: 7681.210940

Per case: 9.166123

BIC/SC: 7737.983157

Per case: 9.233870

Deviance: 1100.238579 P-value of Deviance: 0.0001

Pearson Chi-Square: 1405.512175 P-value of Chi-Square: 0.0001

Model error estimates

Mean absolute deviation: 25.058452

1st (highest) quartile: 47.330507

2nd quartile: 15.141502

3rd quartile: 17.419911

4th (lowest) quartile: 20.386595

Mean squared predicted error: 1416.272933

1st (highest) quartile: 3525.222544

2nd quartile: 642.417792

3rd quartile: 821.057482

4th (lowest) quartile: 683.406986

Dispersion tests

Adjusted deviance: 1.332008 P-value of Deviance: n.s.

Adjusted Pearson Chi-Square: 1.701589 P-value of Chi-Square: 0.1000

Dispersion multiplier: 0.498647 Z = 24.786324 P-value of Z: 0.1000

Inverse dispersion multiplier: 2.005428

Condition number of distance matrix: 107.211717

Condition number of matrix CD-1: 22.225026

MC error/

Mean Std t-value p-value MC error std G-R stat

---------------------------------------------------------------------------------------------------------------

Intercept: 2.584435 0.084132 30.718938 0.001 0.002682 0.031876 1.012424

FACTOR: 0.237095 0.057036 4.156915 0.001 0.000860 0.015082 1.000422

VANRATE: 0.003146 0.001235 2.547147 0.020 0.000018 0.014976 1.000991

PROP\_M\_Y: 5.599419 0.673169 8.318003 0.001 0.017669 0.026247 1.005526

P\_HUB\_A: 0.016514 0.010441 1.581577 n.s. 0.000125 0.011952 1.001228

P\_PARK\_A: 0.035478 0.007727 4.591347 0.001 0.000106 0.013663 1.001109

P\_SKOLAN\_A: 0.018227 0.006636 2.746800 0.010 0.000070 0.010475 1.000320

P\_UNEMPLOY: 0.048559 0.186253 0.260713 n.s. 0.002218 0.011910 1.000214

AREA: 6.3605e-007 6.9772e-008 9.116164 0.001 1.6884e-009 0.024199 1.008532

NEAR\_DIST: -0.000024 9.3706e-006 -2.561411 0.020 2.5222e-007 0.026916 1.005811

Spatial autocorrelation

(Phi): -0.005059 0.012168 -0.415760 n.s. 0.000167 0.013698 1.002024

---------------------------------------------------------------------------------------------------------------

Global component

(Rho): 0.049180 0.041741 1.178203 n.s. 0.000520 0.012462 1.000925

Local component

(Tauphi): 0.221434 0.108667 2.037733 0.050 0.007757 0.071379 1.123183

Neighborhood component

(Alpha: defined) -0.000621 Meters

End time.........: 04:00:40 PM, 09/12/2022

**Diagnostics**

Check that these values are appropriate:

Minimum value Maximum value

--------------- ---------------

LITTER 0.000000 276.000000

FACTOR 0.000000 1.000000

VANRATE 0.011300 368.078300

PROP\_M\_Y 0.000100 0.376700

P\_HUB\_A 0.000100 27.996900

P\_PARK\_A 0.000100 28.138000

P\_SKOLAN\_A 0.000100 48.045100

P\_UNEMPLOY 0.000100 2.390000

AREA 13695.000000 3853125.740000

NEAR\_DIST 0.000000 17850.950000

Test for skewness in the dependent variable:

g = 1.877301

SES = 0.084616

Z = 22.186063

p = 0.001

Ratio of simple variance to simple mean = 33.213855

Message:

The dependent variable is skewed and there is evidence of over-dispersion.

Run an MLE or MCMC Poisson-Gamma regression model.

If the dispersion parameter in the Poisson-Gamma model is significant,

accept the results of that model.

If the dispersion parameter in the Poisson-Gamma model is not significant and is very close to 0,

run an MLE Poisson regression model.

If the dispersion parameter in the Poisson-Gamma model is negative,

run a Poisson with Linear Correction regression model.

Test for spatial autocorrelation:

Moran's I = 0.040680

P-value (one tail)= 0.0001

There is definite spatial autocorrelation in your dependent variable.

Use a spatial regression model or account for the spatial effect with a proxy variable.

Estimate of appropriate alpha value:

Mean Nearest Neighbor Distance ..: 0.000000 mi, 0.000000 ft, 0.000000 km, 0.000000 m

Recommended values for alpha

Spatial weight alpha (miles) alpha (feet) alpha (km) alpha(meters)

-------------- ------------- ------------ ---------- --------------

0.90 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.75 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.50 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

Pseudo-tolerance test for independent variables

Predictor Pseudo-tolerance

--------- -----------------------

FACTOR 1.000000

VANRATE 0.787192

PROP\_M\_Y 0.939357

P\_HUB\_A 0.831415

P\_PARK\_A 0.942130

P\_SKOLAN\_A 0.932296

P\_UNEMPLOY 0.969521

AREA 0.779515

NEAR\_DIST 0.717571

Probable multicollinearity.

Eliminate variable with low tolerance and re-run.

**Urination and Defecation**

Start time.........: 04:02:03 PM, 09/12/2022

DepVar: URINE

N: 838

Df: 826

Sample number: ......... 1.

The number of cases: ......... 838.

Start time...........: 04:04:41 PM, 09/12/2022

Type of regression model: Poisson-Gamma-CAR

Method of estimation: MCMC

Distance decay function: Negative exponential

Number of iterations: 25000

Burn in: 5000

Block size: 838

Number of samples: 1

Average block sample size: 838.00

Likelihood statistics

Log-likelihood: -1829.321490

Per case: -2.182961

DIC: 3643.503610

AIC: 3682.642979

Per case: 4.394562

BIC/SC: 3739.415196

Per case: 4.462309

Deviance: 939.848670 P-value of Deviance: 0.0001

Pearson Chi-Square: 1286.547772 P-value of Chi-Square: 0.0001

Model error estimates

Mean absolute deviation: 3.210144

1st (highest) quartile: 6.621619

2nd quartile: 1.803642

3rd quartile: 2.157156

4th (lowest) quartile: 2.267184

Mean squared predicted error: 35.164672

1st (highest) quartile: 104.552043

2nd quartile: 15.687051

3rd quartile: 12.604628

4th (lowest) quartile: 8.074204

Dispersion tests

Adjusted deviance: 1.137831 P-value of Deviance: n.s.

Adjusted Pearson Chi-Square: 1.557564 P-value of Chi-Square: n.s.

Dispersion multiplier: 1.295591 Z = 6.603295 P-value of Z: n.s.

Inverse dispersion multiplier: 0.771849

Condition number of distance matrix: 107.211717

Condition number of matrix CD-1: 22.225026

MC error/

Mean Std t-value p-value MC error std G-R stat

---------------------------------------------------------------------------------------------------------------

Intercept: 0.923363 0.146630 6.297231 0.001 0.005278 0.035992 1.008019

FACTOR: 0.194423 0.098307 1.977716 0.050 0.001792 0.018229 1.001340

VANRATE: 0.005496 0.001419 3.872458 0.001 0.000019 0.013664 1.001307

PROP\_M\_Y: 2.819100 1.208067 2.333563 0.020 0.040186 0.033265 1.009334

P\_HUB\_A: 0.073952 0.014098 5.245567 0.001 0.000204 0.014451 1.000142

P\_PARK\_A: 0.026091 0.012630 2.065776 0.050 0.000166 0.013118 1.000996

P\_SKOLAN\_A: 0.016949 0.010046 1.687176 n.s. 0.000101 0.010016 1.000180

P\_UNEMPLOY: -2.771957 0.807513 -3.432710 0.001 0.020897 0.025878 1.002870

AREA: 5.1644e-007 1.1221e-007 4.602662 0.001 3.3746e-009 0.030075 1.019534

NEAR\_DIST: -0.000131 0.000018 -7.356667 0.001 7.3030e-007 0.041014 1.050807

Spatial autocorrelation

(Phi): -0.001093 0.013901 -0.078648 n.s. 0.000165 0.011884 1.001224

---------------------------------------------------------------------------------------------------------------

Global component

(Rho): 0.044098 0.038716 1.139025 n.s. 0.000439 0.011333 1.000419

Local component

(Tauphi): 0.290391 0.427591 0.679132 n.s. 0.033974 0.079455 1.195008

Neighborhood component

(Alpha: defined) -0.000621 Meters

**Diagnostics**

Check that these values are appropriate:

Minimum value Maximum value

--------------- ---------------

URINE 0.000000 61.000000

FACTOR 0.000000 1.000000

VANRATE 0.011300 368.078300

PROP\_M\_Y 0.000100 0.376700

P\_HUB\_A 0.000100 27.996900

P\_PARK\_A 0.000100 28.138000

P\_SKOLAN\_A 0.000100 48.045100

P\_UNEMPLOY 0.000100 2.390000

AREA 13695.000000 3853125.740000

NEAR\_DIST 0.000000 17850.950000

Test for skewness in the dependent variable:

g = 4.391766

SES = 0.084616

Z = 51.902177

p = 0.001

Ratio of simple variance to simple mean = 11.084672

Message:

The dependent variable is skewed and there is evidence of over-dispersion.

Run an MLE or MCMC Poisson-Gamma regression model.

If the dispersion parameter in the Poisson-Gamma model is significant,

accept the results of that model.

If the dispersion parameter in the Poisson-Gamma model is not significant and is very close to 0,

run an MLE Poisson regression model.

If the dispersion parameter in the Poisson-Gamma model is negative,

run a Poisson with Linear Correction regression model.

Test for spatial autocorrelation:

Moran's I = 0.098059

P-value (one tail)= 0.0001

There is definite spatial autocorrelation in your dependent variable.

Use a spatial regression model or account for the spatial effect with a proxy variable.

Estimate of appropriate alpha value:

Mean Nearest Neighbor Distance ..: 0.000000 mi, 0.000000 ft, 0.000000 km, 0.000000 m

Recommended values for alpha

Spatial weight alpha (miles) alpha (feet) alpha (km) alpha(meters)

-------------- ------------- ------------ ---------- --------------

0.90 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.75 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.50 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

Pseudo-tolerance test for independent variables

Predictor Pseudo-tolerance

--------- -----------------------

FACTOR 1.000000

VANRATE 0.787192

PROP\_M\_Y 0.939357

P\_HUB\_A 0.831415

P\_PARK\_A 0.942130

P\_SKOLAN\_A 0.932296

P\_UNEMPLOY 0.969521

AREA 0.779515

NEAR\_DIST 0.717571

Probable multicollinearity.

Eliminate variable with low tolerance and re-run.

**Abandoned Cars**

Start time.........: 04:21:48 PM, 09/12/2022

DepVar: ABANDCA

N: 838

Df: 826

Sample number: ......... 1.

The number of cases: ......... 838.

Start time...........: 04:23:31 PM, 09/12/2022

Type of regression model: Poisson-Gamma-CAR

Method of estimation: MCMC

Distance decay function: Negative exponential

Number of iterations: 25000

Burn in: 5000

Block size: 838

Number of samples: 1

Average block sample size: 838.00

Likelihood statistics

Log-likelihood: -1221.994909

Per case: -1.458228

DIC: 2460.731263

AIC: 2467.989818

Per case: 2.945095

BIC/SC: 2524.762035

Per case: 3.012843

Deviance: 746.368215 P-value of Deviance: 0.0001

Pearson Chi-Square: 926.213604 P-value of Chi-Square: 0.0001

Model error estimates

Mean absolute deviation: 1.864574

1st (highest) quartile: 4.519470

2nd quartile: 1.034982

3rd quartile: 0.951016

4th (lowest) quartile: 0.961471

Mean squared predicted error: 25.089600

1st (highest) quartile: 89.443953

2nd quartile: 5.699539

3rd quartile: 2.616053

4th (lowest) quartile: 2.812036

Dispersion tests

Adjusted deviance: 0.903593 P-value of Deviance: n.s.

Adjusted Pearson Chi-Square: 1.121324 P-value of Chi-Square: n.s.

Dispersion multiplier: 1.304314 Z = 8.349353 P-value of Z: n.s.

Inverse dispersion multiplier: 0.766687

Condition number of distance matrix: 107.211717

Condition number of matrix CD-1: 22.225026

MC error/

Mean Std t-value p-value MC error std G-R stat

---------------------------------------------------------------------------------------------------------------

Intercept: -1.587708 0.181842 -8.731249 0.001 0.006697 0.036831 1.012550

FACTOR: -0.028647 0.108792 -0.263322 n.s. 0.001951 0.017936 1.000868

VANRATE: 0.003855 0.002423 1.591229 n.s. 0.000052 0.021426 1.002953

PROP\_M\_Y: 3.277936 1.160079 2.825613 0.010 0.031415 0.027080 1.005608

P\_HUB\_A: -0.067897 0.027723 -2.449117 0.020 0.000654 0.023576 1.002302

P\_PARK\_A: 0.000196 0.017663 0.011087 n.s. 0.000318 0.018016 1.002501

P\_SKOLAN\_A: -0.005158 0.015754 -0.327376 n.s. 0.000259 0.016462 1.001357

P\_UNEMPLOY: 0.441265 0.296469 1.488400 n.s. 0.003182 0.010734 1.000285

AREA: 9.1415e-007 1.2294e-007 7.435475 0.001 2.4661e-009 0.020059 1.003073

NEAR\_DIST: 0.000151 0.000016 9.266318 0.001 4.1334e-007 0.025377 1.004893

Spatial autocorrelation

(Phi): -0.000951 0.006799 -0.139928 n.s. 0.000086 0.012654 1.002346

---------------------------------------------------------------------------------------------------------------

Global component

(Rho): 0.043898 0.038811 1.131086 n.s. 0.000409 0.010534 1.000575

Local component

(Tauphi): 2.211975 3.342942 0.661685 n.s. 0.270736 0.080987 1.179299

Neighborhood component

(Alpha: defined) -0.000621 Meters

End time.........: 04:34:55 PM, 09/12/2022

**Diagnostics**

Check that these values are appropriate:

Minimum value Maximum value

--------------- ---------------

ABANDCA 0.000000 25.000000

FACTOR 0.000000 1.000000

VANRATE 0.011300 368.078300

PROP\_M\_Y 0.000100 0.376700

P\_HUB\_A 0.000100 27.996900

P\_PARK\_A 0.000100 28.138000

P\_SKOLAN\_A 0.000100 48.045100

P\_UNEMPLOY 0.000100 2.390000

AREA 13695.000000 3853125.740000

NEAR\_DIST 0.000000 17850.950000

Test for skewness in the dependent variable:

g = 3.127967

SES = 0.084616

Z = 36.966516

p = 0.001

Ratio of simple variance to simple mean = 5.141174

Message:

The dependent variable is skewed and there is evidence of over-dispersion.

Run an MLE or MCMC Poisson-Gamma regression model.

If the dispersion parameter in the Poisson-Gamma model is significant,

accept the results of that model.

If the dispersion parameter in the Poisson-Gamma model is not significant and is very close to 0,

run an MLE Poisson regression model.

If the dispersion parameter in the Poisson-Gamma model is negative,

run a Poisson with Linear Correction regression model.

Test for spatial autocorrelation:

Moran's I = 0.093697

P-value (one tail)= 0.0001

There is definite spatial autocorrelation in your dependent variable.

Use a spatial regression model or account for the spatial effect with a proxy variable.

Estimate of appropriate alpha value:

Mean Nearest Neighbor Distance ..: 0.000000 mi, 0.000000 ft, 0.000000 km, 0.000000 m

Recommended values for alpha

Spatial weight alpha (miles) alpha (feet) alpha (km) alpha(meters)

-------------- ------------- ------------ ---------- --------------

0.90 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.75 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.50 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

Pseudo-tolerance test for independent variables

Predictor Pseudo-tolerance

--------- -----------------------

FACTOR 1.000000

VANRATE 0.787192

PROP\_M\_Y 0.939357

P\_HUB\_A 0.831415

P\_PARK\_A 0.942130

P\_SKOLAN\_A 0.932296

P\_UNEMPLOY 0.969521

AREA 0.779515

NEAR\_DIST 0.717571

Probable multicollinearity.

Eliminate variable with low tolerance and re-run.

**Poor Bike Parking**

Start time.........: 04:35:51 PM, 09/12/2022

DepVar: BIKEPAR

N: 838

Df: 826

Sample number: ......... 1.

The number of cases: ......... 838.

Start time...........: 04:37:31 PM, 09/12/2022

Type of regression model: Poisson-Gamma-CAR

Method of estimation: MCMC

Distance decay function: Negative exponential

Number of iterations: 25000

Burn in: 5000

Block size: 838

Number of samples: 1

Average block sample size: 838.00

Likelihood statistics

Log-likelihood: -1599.809996

Per case: -1.909081

DIC: 3155.414775

AIC: 3223.619992

Per case: 3.846802

BIC/SC: 3280.392210

Per case: 3.914549

Deviance: 1162.326376 P-value of Deviance: 0.0001

Pearson Chi-Square: 2265.300652 P-value of Chi-Square: 0.0001

Model error estimates

Mean absolute deviation: 1.874347

1st (highest) quartile: 4.083666

2nd quartile: 0.904506

3rd quartile: 1.225015

4th (lowest) quartile: 1.289794

Mean squared predicted error: 11.384323

1st (highest) quartile: 38.125762

2nd quartile: 1.873203

3rd quartile: 3.112171

4th (lowest) quartile: 2.511067

Dispersion tests

Adjusted deviance: 1.407175 P-value of Deviance: n.s.

Adjusted Pearson Chi-Square: 2.742495 P-value of Chi-Square: 0.0010

Dispersion multiplier: 0.685045 Z = 3.558405 P-value of Z: n.s.

Inverse dispersion multiplier: 1.459757

Condition number of distance matrix: 107.211717

Condition number of matrix CD-1: 22.225026

MC error/

Mean Std t-value p-value MC error std G-R stat

---------------------------------------------------------------------------------------------------------------

Intercept: 0.553123 0.135468 4.083047 0.001 0.005012 0.036998 1.006075

FACTOR: 0.118629 0.093841 1.264158 n.s. 0.001994 0.021249 1.000935

VANRATE: 0.003010 0.001530 1.967128 0.050 0.000029 0.018822 1.002700

PROP\_M\_Y: 4.705415 1.096311 4.292043 0.001 0.032496 0.029641 1.007291

P\_HUB\_A: 0.028738 0.014331 2.005315 0.050 0.000250 0.017436 1.000886

P\_PARK\_A: 0.024020 0.012080 1.988407 0.050 0.000203 0.016826 1.000798

P\_SKOLAN\_A: -0.000387 0.010580 -0.036623 n.s. 0.000155 0.014632 1.002233

P\_UNEMPLOY: -1.386822 0.589301 -2.353334 0.020 0.017930 0.030425 1.002611

AREA: 6.4845e-007 1.1220e-007 5.779557 0.001 3.5742e-009 0.031856 1.007440

NEAR\_DIST: -0.000192 0.000020 -9.544282 0.001 9.6956e-007 0.048202 1.030667

Spatial autocorrelation

(Phi): -0.003501 0.025027 -0.139872 n.s. 0.000348 0.013902 1.000599

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Global component

(Rho): 0.046477 0.040300 1.153268 n.s. 0.000439 0.010901 1.000831

Local component

(Tauphi): 0.049527 0.023559 2.102247 0.050 0.001654 0.070219 1.057634

Neighborhood component

(Alpha: defined) -0.000621 Meters

End time.........: 04:48:42 PM, 09/12/2022

**Diagnostics**

Check that these values are appropriate:

Minimum value Maximum value

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BIKEPAR 0.000000 55.000000

FACTOR 0.000000 1.000000

VANRATE 0.011300 368.078300

PROP\_M\_Y 0.000100 0.376700

P\_HUB\_A 0.000100 27.996900

P\_PARK\_A 0.000100 28.138000

P\_SKOLAN\_A 0.000100 48.045100

P\_UNEMPLOY 0.000100 2.390000

AREA 13695.000000 3853125.740000

NEAR\_DIST 0.000000 17850.950000

Test for skewness in the dependent variable:

g = 5.596740

SES = 0.084616

Z = 66.142640

p = 0.001

Ratio of simple variance to simple mean = 5.632682

Message:

The dependent variable is skewed and there is evidence of over-dispersion.

Run an MLE or MCMC Poisson-Gamma regression model.

If the dispersion parameter in the Poisson-Gamma model is significant,

accept the results of that model.

If the dispersion parameter in the Poisson-Gamma model is not significant and is very close to 0,

run an MLE Poisson regression model.

If the dispersion parameter in the Poisson-Gamma model is negative,

run a Poisson with Linear Correction regression model.

Test for spatial autocorrelation:

Moran's I = 0.038343

P-value (one tail)= 0.0001

There is definite spatial autocorrelation in your dependent variable.

Use a spatial regression model or account for the spatial effect with a proxy variable.

Estimate of appropriate alpha value:

Mean Nearest Neighbor Distance ..: 0.000000 mi, 0.000000 ft, 0.000000 km, 0.000000 m

Recommended values for alpha

Spatial weight alpha (miles) alpha (feet) alpha (km) alpha(meters)

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0.90 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.75 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

0.50 -1.#INF00 -1.#INF00 -1.#INF00 -1.#INF00

Pseudo-tolerance test for independent variables

Predictor Pseudo-tolerance

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FACTOR 1.000000

VANRATE 0.787192

PROP\_M\_Y 0.939357

P\_HUB\_A 0.831415

P\_PARK\_A 0.942130

P\_SKOLAN\_A 0.932296

P\_UNEMPLOY 0.969521

AREA 0.779515

NEAR\_DIST 0.717571

Probable multicollinearity.

Eliminate variable with low tolerance and re-run.

Graphical user interface

Description automatically generated

Graphical user interface, application

Description automatically generated

Graphical user interface, application

Description automatically generated