6. MATHEMATICAL MODELING

6.1 PARAMETERS AND GENERAL EQUATION

Mathematical models were targeted for estimation of L_{eq} as a dependent parameter. Traffic volume, observer position, noise variability, and carriageway-occupancy related parameters vitally influencing the acoustic profile during a traffic jam along a roadway near intersections were adopted as independent parameters. The adopted independent parameters were:

(i) Traffic in terms of PCU and the corresponding percentage of heavy vehicles p_1.

(ii) Traffic in terms of weighted traffic volume (Q_w) and the corresponding percentage of heavy vehicles p_2.

(iii) Observer distance from noise source (d).

(iv) Noise climate (NC) being $(L_{10} - L_{90})$.

(v) Noise range (NR) being ($L_{max} - L_{min}$).

(vi) Percentage Area-Occupancy ($\%AO$).

Four set of independent parameters were adopted for model development with suitable combinations as listed below:

(a) NC, $PCU/\ d$, p_1, $\%AO$.

(b) NC, $Q_w/\ d$, p_2, $\%AO$.

(c) NR, $PCU/\ d$, p_1, $\%AO$.

(d) NR, $Q_w/\ d$, p_2, $\%AO$.

Finally, four set of equations corresponding to the four set of independent parameters were developed for estimation of L_{eq}, whose general forms are shown in Eq. 6.1 to 6.4.

$$L_{eq} = a + b(NC) + c\left(\frac{PCU}{d}\right) + d(p_1) + \mathrm{e}(\%AO) \quad (6.1)$$

$$L_{eq} = a + b(NC) + c\left(\frac{Q_w}{d}\right) + d(p_2) + \mathrm{e}(\%AO) \quad (6.2)$$

$$L_{eq} = a + b(NR) + c\left(\frac{PCU}{d}\right) + d(p_1) + \mathrm{e}(\%AO) \quad (6.3)$$

$$L_{eq} = a + b(NR) + c\left(\frac{Q_w}{d}\right) + d(p_2) + \mathrm{e}(\%AO) \quad (6.4)$$

where, a = y-intercept.

b, c, d and e = coefficients of respective independent parameters.

6.2 MODEL TYPES

Models were developed for the following situations:

(i) Floor-wise leg models: For every leg of the intersection, separate models were developed for individual floor levels – GF, FF, and SF.

(ii) Floor-wise intersection models: A common model comprising of floor-wise data of all legs of the intersection.

(iii) Floor-wise city models: A common model comprising of floor-wise data of all intersections of the city under study.

(iv) Consolidated city models: A common model comprising of all data obtained in the study for all floors.

6.3 ANALYSIS TOOL

Multivariate regression analysis (MRA) was conducted for the development of models at a confidence level of 95%. The 'data analysis' toolbar in MS Excel 2016 was used in which the results of the 'Regression Statistics' provides for the coefficient of determination (R^2). Benchmarking of R^2 to attain a minimum value of 0.60 for acceptability of the model was adopted as the measure of good correlation. The analysis of variance ($ANOVA$) in the 'Analysis Suite' provides for information on y-intercept, coefficients of independent variables with associated Standard Error (SE) of the estimate. Additional information on t-Statistics, P-value etc. for every parameter were also provided in the output.

Statistical analysis was conducted for chi-square test and t-test for testing the goodness of fit and determining the status of statistical significance.

6.4 PROCEDURE ADOPTED

It was mentioned in Section 4.3.4 that out of 8 sets of data obtained during the data collection programme, 6 data sets would be utilized for model development and 2 data sets for validation/calibration of the developed model. In line with this, the procedure adopted for model development was scheduled as listed below:

(i) Model development: MRA was conducted between identified dependent and independent parameters of 6 data sets to obtain the best-fit equation. The corresponding y-intercept, coefficients of independent variables with associated R^2 and SE were recorded.

(ii) Check for adequacy: Once the best-fit equation was obtained from regression analysis having a good correlation, it was necessary to test it for the *goodness of fit* to establish its adequacy on the same set of data. Out of the available tools in statistics, chi-square (χ^2) test and t-test were used in the study. The χ^2 test of independence determines whether there is was a statistically significant relationship between the categorical variables, while t-tests are hypothesis tests for the mean and use the t-distribution to determine statistical significance. The literature states that these tools are appropriate for small sample size which is the case for model type 6.2 (i) and (ii) in the study. These tools are also adaptable to large sample size when the distribution tends to be normal as in the case of model type 6.2 (iii) and (iv). The sample statistic was assumed to be distributed approximately as χ^2 having $(R_n\text{-}1)(C_n\text{-}1)$ degrees of freedom (df); and as $(R_n\text{-}1)$ degrees of freedom (df) for every sample t-test, where, R_n is the number of rows or the number of observation and C_n is the number of columns or the number of independent parameters in the developed equation. In the present work, adequacy of the developed model was checked for 6 data sets and the predictive equation was accepted when the obtained χ^2 value was less than the critical χ^2 value at significance level (α) of 0.05, otherwise rejected. For t-test, the p-value was obtained between two samples (observed and predicted) assuming equal variances (since both had equal number of data points), stated as 'P($T \leq t$) two-tail' and the predictive equation was accepted when the obtained t-value was less than the critical t-value at significance level (α) of 0.05, otherwise rejected. The assumption of equal variances in the present experiment is valid since the investigation was

conducted for the same kind of data taken from the same kind of experiment. A two-tailed test has the advantage of testing the possibility of the relationship in both directions i.e. if the predicted mean is significantly greater or significantly less than mean-observed. Obtained p-value less than 0.05 indicated statistically significant differences (DS) between the means of the two trials (viz. observed vs predicted), while p-value more than 0.05 indicated statistically insignificant differences (DI) [201-206].

(iii) Calibration/validation of the model: The obtained models were finally calibrated/validated for the 2 data sets obtained at different time and date on the respective leg of the intersection to verify its ability to predict/estimate the dependent parameter under a similar set of physical conditions. Both chi-square test and t-test were conducted to ensure applicability of the model.

6.5 FLOOR-WISE LEG MODEL

Regression outputs for floor-wise leg model are shown in Table 6.1 for all the four equations considered viz. 6.1, 6.2, 6.3 and 6.4. In all, 260 models (65 legs × 4 types) were developed for GF level, 148 models (37 legs × 4 types) were developed for FF level, and 72 models (18 legs × 4 types) were developed for SF level for estimation of L_{eq}. In view of Section 5.2.7.4 mentioning that every leg of the intersection is unique in terms of the noise emission profile, which is attributable to its physical apparatus, geometry, available carriageway width, type of traffic encountered, traffic control measures in place etc. Such uniqueness of this environmental dimension cannot be appreciated without a dedicated model for each case for which data was collected for a sustained period of 4 years. Therefore, the

number of models as cited above were developed separately for GF, FF and SF levels and documented. It was observed that the R^2 values were close to 1.0, indicating a strong correlation between the independent and dependent parameters. However, value lower than 0.60 for the GF of Bhelupur leg of Durgakund temple intersection for Eq. 6.3.

The individual SE values were less than 1.0 dBA indicating strong agreement between predicted and field data. The summated SE values obtained for the predictive effort were in agreement with each other, enunciating that the models developed in accordance with Eq. 6.1 to 6.4 qualify for field use.

The developed equations were checked for adequacy using χ^2 test as shown in Table 6.2(a). It was observed that the obtained χ^2 values were lower than the respective critical χ^2 values. But, comparatively higher obtained χ^2 values were observed for the BW of Trauma Centre leg of BHU intersection for Eq. 6.1, 6.2, 6.3 and 6.4; and GF of Sankatmochan Temple leg of Lanka-Sankatmochan intersection for Eq. 6.1.

Summation of the obtained χ^2 values reveal that Eq. 6.2 (with parameter NC) and Eq. 6.4 (with parameter NR) utilizing weighted traffic volume (Q_w) for traffic volume had significantly lower obtained χ^2 values in comparison to those utilizing traffic volume in terms of PCU, making Q_w a preferred parameter for the modeling of traffic jam noise.

From the t-test results shown in Table 6.2(b) it was inferred that the t-statistic was lower than the t-critical for all cases, with the exception of GF of Sankatmochan Temple leg of Lanka-Sankatmochan intersection. The obtained p-value was greater than 0.05 in a majority of cases, meaning thereby a statistically insignificant difference (DI) between the means of two trials (observed and predicted data). However, statistically significant differences (DS)

between the two means were noticed for BW of Trauma Centre leg of BHU intersection for for Eq. 6.1, 6.3 and 6.4; GF of Sankatmochan Temple leg of Lanka-Sankatmochan intersection for Eq. 6.1; and BW of Sigra leg of Englishia Line intersection for Eq. 6.4.

Summation of p-values shows that those equations utilizing NR as noise variability parameter had higher p-values than those using NC, highlighting that NR was more preferable for modeling of traffic jam noise.

Validation/calibration of developed equation conducted on a different set of data using chi-square test are shown in Table 6.3(a). It was found that the obtained χ^2 values were mostly insignificant and less than the respective critical χ^2 values. Therefore, the models developed were acceptable for prediction of L_{eq} under traffic jam conditions. However, relatively higher values of obtained χ^2 were found for BW of Trauma Centre leg of BHU intersection for Eq. 6.1 and 6.3.

Summation of the obtained χ^2 values reveals observation similar to Table 6.2(a).

The t-test results are shown in Table 6.3(b). It was observed that the t-statistic was lower than the t-critical for all cases. The obtained p-value was greater than 0.05 in a predominant number of cases, meaning thereby a statistically insignificant difference (DI) between the means of two trials (observed and predicted data). However, statistically significant differences (DS) between the two means were noticed for BW of Trauma Centre leg of BHU intersection for Eq. 6.1 and 6.3; BW of Sigra leg of Englishia Line intersection for Eq. 6.1, 6.2 and 6.4; SF of Lanka leg of Godowlia intersection for Eq. 6.2 and 6.4; and SF of Kutchhary leg of Police Line intersection for Eq. 6.1.

Summation of p-values reveals observation similar to Table 6.2(b).

From the foregoing paragraphs, NR and Q_w as new parameters were established to be better than NC and PCU for modeling traffic jam noise, enunciating the superiority of Eq. (6.4) in estimating L_{eq}. Out of all models that follow Eq. (6.4), the model of Bhikharipur intersection towards Sundarpur has highest R^2 value collectively for GF, FF and SF levels, and had coefficients available for all modeling parameters. Therefore, Eq. 6.5 to 6.7 are recommended as the floor-wise leg model for general estimation of traffic jam noise for mixed traffic having non-lane based movement, notwithstanding the fact that leg specific models developed in Table 6.1 utilizing the format of Eq. (6.4) may be used for any future traffic noise intervention for the city of Varanasi.

For GF level, $$L_{eq} = 81.14 + 0.03(NR) + 0.58\left(\frac{Q_w}{d}\right) + 0.05(p_2) + 0.07(\%AO)$$

$$R^2 = 1.000, \quad SE = 0.044 \qquad (6.5)$$

For FF level, $$L_{eq} = 79.56 + 0.02(NR) + 0.75\left(\frac{Q_w}{d}\right) + 0.06(p_2) + 0.07(\%AO)$$

$$R^2 = 1.000, \quad SE = 0.034 \qquad (6.6)$$

For SF level, $$L_{eq} = 80.77 + 0.08(NR) + 0.73\left(\frac{Q_w}{d}\right) + 0.03(p_2) + 0.06(\%AO)$$

$$R^2 = 1.000, \quad SE = 0.043 \qquad (6.7)$$

(Note: Percentage of heavy vehicles p_2 is an important modeling parameter and its presence was ensured while making the above recommendation. Cases depicting statistical differences and reported in the discussion were also excluded).

6.6 FLOOR-WISE INTERSECTION MODEL

Regression outputs for the floor-wise intersection model comprising of floor-wise data of all legs of the concerned intersection are shown in Table 6.4 for all the four equations considered viz. 6.1, 6.2, 6.3 and 6.4. In all, 76 models (19 intersections × 4 types) were developed for GF level, 68 models (17 intersections × 4 types) were developed for FF level, and 52 models (13 intersections × 4 types) were developed for SF level. It was observed that R^2 values were generally higher than 0.60. It was, however, lower values than 0.60 were observed for GF of BHU Gate intersection for Eq. 6.1 and 6.3; GF and FF of Bhelupur intersection for Eq. 6.4; GF of Rathyatra intersection for Eq. 6.2, 6.3 and 6.4; and GF of Manduadih intersection for Eq. 6.2.

The individual SE values varied between 0.013 to 4.018, however, they were mostly less than 1.0 dBA. Therefore, with moderate loss of precision, the models avoided significant loss of generality, qualifying them for field use.

Check for adequacy using chi-square test as per Table 6.5(a) shows that the obtained χ^2 values were lower than the respective critical χ^2 values. However, relatively higher values of obtained χ^2 were found for the GF of BHU intersection for Eq. 6.1 and 6.3; SF of Lanka-Sankatmochan intersection for Eq. 6.1; GF of Englishia Line intersection for Eq. 6.1 to 6.4; and GF of Pandeypur intersection for Eq. 6.1 to 6.4.

Summation of the obtained χ^2 values reveals that Eq. 6.2 and 6.4 utilizing weighted traffic volume (Q_w) for traffic volume had significantly lower χ^2 values in comparison to Eq. 6.1 and 6.3 utilizing traffic volume in terms of PCU. This observation is similar to Section 6.5 made for floor-wise leg model.

According to the t-test results shown in Table 6.5(b), the t-statistic was observed to be lower than the t-critical for the predominant number of cases. However, it was higher for GF and SF of Lanka-Sankatmochan intersection for Eq. 6.1; and GF of Englishia Line intersection for Eq. 6.1 to 6.3.

The obtained p-value was generally higher than 0.05, meaning thereby a statistically insignificant difference (DI) between the means of two trials (observed and predicted data). However, statistically significant differences (DS) between the two means were observed for the GF of BHU intersection for Eq. 6.1 and 6.3; GF and SF of Lanka-Sankatmochan intersection for Eq. 6.1; and GF of Englishia Line intersection for Eq. 6.1 to 6.3.

Summation of p-values shows that those equations utilizing NR as noise range variation parameter had better p-values than NC, highlighting that NR was more suitable for modeling of traffic jam noise. This observation is similar to Section 6.5 made for floor-wise leg model.

Validation/calibration of developed equation conducted on a different set of data using chi-square test are shown in Table 6.6(a). It was found that the obtained χ^2 values were mostly insignificant and less than the respective critical χ^2 values. Therefore, the models developed were acceptable for prediction of L_{eq} under traffic jam conditions. However, relatively higher values of obtained χ^2 were found for the GF of BHU Gate intersection for Eq. 6.1 to 6.4; GF of Ravidas Gate intersection for Eq. 6.2 and 6.4; GF of Bhelupur intersection for Eq. 6.2 and 6.4; and GF of Englishia Line intersection for Eq. 6.1 to 6.4.

Summation of the obtained χ^2 values reveal that all equations had comparable values of obtained χ^2.

The t-test results are shown in Table 6.6(b). It was observed that the t-statistic was lower than the t-critical for a predominant number of cases. However, it was higher for GF of Englishia Line intersection for Eq. 6.1 and 6.3; and FF of Bhojubir intersection for Eq. 6.3.

The obtained p-value was generally higher than 0.05 in predominant number of cases, meaning thereby a statistically insignificant difference (DI) between the means of two trials (observed and predicted data). However, statistically significant differences (DS) between the two means were noticed for GF of Bhelupur intersection for Eq. 6.2 and 6.4; GF of Englishia Line intersection for Eq. 6.1 and 6.3; GF and SF of Godowlia intersection for Eq. 6.2 and 6.4; FF of Bhojubir intersection for Eq. 6.3; and SF of Police Line intersection for Eq. 6.1.

Summation of p-values reveals that all equations had comparable results.

Out of all models that follow Eq. (6.4), the model of Bhikharipur intersection has highest R^2 value collectively for GF, FF and SF levels, and had coefficients available for all modeling parameters. Therefore, Eq. 6.8 to 6.10 are recommended as the floor-wise intersection model for general estimation of traffic jam noise for mixed traffic having non-lane based movement, notwithstanding the fact that intersection models developed in Table 6.4 utilizing the format of Eq. (6.4) may be used for any future traffic noise intervention for the city of Varanasi.

For GF level,
$$L_{eq} = 72.37 + 0.66(NR) - 0.22\left(\frac{Q_w}{d}\right) + 0.04(p_2) + 0.15(\%AO)$$
$$R^2 = 0.956, \quad SE = 0.548 \qquad (6.8)$$

For FF level,
$$L_{eq} = 79.56 + 0.02(NR) + 0.75\left(\frac{Q_w}{d}\right) + 0.06(p_2) + 0.07(\%AO)$$
$$R^2 = 1.000, \quad SE = 0.034 \qquad (6.9)$$

For SF level, $$L_{eq} = 80.77 + 0.08(NR) + 0.73\left(\frac{Q_w}{d}\right) + 0.03(p_2) + 0.06(\%AO)$$

$$R^2 = 1.000, \quad SE = 0.043 \qquad (6.10)$$

6.7 FLOOR-WISE CITY MODEL

Regression output for floor-wise city model comprising of floor-wise data of all intersections of the city under study are shown in Table 6.7 for all the four equations considered viz. 6.1, 6.2 6.3 and 6.4. It was observed that R^2 values were around 0.40. Under the assumed hypothesis that the model to be rejected for R^2 lower than 0.60, the models do not qualify for acceptance. However, considering the variation of SE values between 3.717 and 4.426 dBA which was lower than the threshold of 10 dBA for the apparent doubling of loudness discernable by the human ear, it may be stated that the models developed may be acceptable under the said limitations as floor-wise city model.

Check for adequacy using chi-square test as per Table 6.8(a) shows that the obtained χ^2 values were lower than the respective critical χ^2 values. Summation of the obtained χ^2 values reveals a generally comparable efficacy of models.

According to the t-test results shown in Table 6.8(b), the t-statistic was observed to be lower than the t-critical for all cases, with the exception of FF level for Eq. 6.2. The obtained p-value was greater than 0.05 in a predominant number of cases, meaning thereby that there was a statistically insignificant difference (DI) between the means of two trials (observed and predicted data). However, statistically significant differences (DS) between the two means were noticed for FF level of Eq. 6.2.

Summation of p-values shows that the equations utilizing NR as noise estimating parameter had higher p-values than those using NC, highlighting that NR was more preferable for modeling of traffic jam noise. This observation is similar to Section 6.5 made for floor-wise leg model.

Validation/calibration of developed equations conducted on a different set of data using chi-square test are shown in Table 6.9(a). It was found that the obtained χ^2 values were significantly lower than the respective critical χ^2 value. Therefore, the models developed in accordance with from Equation 6.1 to 6.4 were acceptable for prediction of L_{eq} under traffic jam conditions.

Summation of the obtained χ^2 values reveal that Equation 6.2 (with parameter NC) and Equation 6.4 (with parameter NR) utilizing weighted traffic volume (Q_w) for traffic volume had significantly lower obtained χ^2 values in comparison to those utilizing traffic volume in terms of PCU, making Q_w more preferable for the modeling of traffic jam noise. This observation is again similar to Section 6.5 made for floor-wise leg model.

The t-test results are shown in Table 6.9(b). It was observed that the t-statistic was lower than the t-critical for all cases, with the exception of FF level for Eq. 6.2. The obtained p-value was greater than 0.05 in a predominant number of cases, meaning thereby a statistically insignificant difference (DI) between the means of two trials (observed and predicted data). However, statistically significant differences (DS) between the two means were noticed for FF level of Eq. 6.2.

The model obtained from data of intersections in the study are being recommended as floor-wise city model as shown in Eq. 6.11 to 6.13.

For GF level, $$L_{eq} = 70.51 + 0.03(NR) + 0.12\left(\frac{Q_w}{d}\right) + 0.01(p_2) + 0.22(\%AO)$$

$$R^2 = 0.396, \quad SE = 3.743 \qquad (6.11)$$

For FF level, $$L_{eq} = 69.66 - 0.04(NR) - 0.66\left(\frac{Q_w}{d}\right) + 0.01(p_2) + 0.22(\%AO)$$

$$R^2 = 0.366, \quad SE = 4.127 \qquad (6.12)$$

For SF level, $$L_{eq} = 68.97 - 0.17(NR) + 0.59\left(\frac{Q_w}{d}\right) + 0.05(p_2) + 0.20(\%AO)$$

$$R^2 = 0.442, \quad SE = 4.382 \qquad (6.13)$$

6.8 CONSOLIDATED CITY MODEL

Regression output for consolidated city model comprising of all data obtained in the study for all floors are shown in Table 6.10 for all the four equations considered viz. 6.1, 6.2 6.3 and 6.4. It was observed that R^2 values were around 0.40 similar to the floor-wise city model. Under the assumed hypothesis that the model to be rejected for R^2 lower than 0.60, the models do not qualify for acceptance. However, considering the variation of SE values between 4.022 and 4.030 dBA which was lower than the threshold of 10 dBA for the apparent doubling of loudness discernable by the human ear, it may be stated that the models developed in accordance with Eq. 6.1 to 6.4 can be acceptable under the said limitations as consolidated city model.

Check for adequacy using chi-square test as per Table 6.11(a) shows that the obtained χ^2 values were significantly lower than the respective critical χ^2 values. Summation of the obtained χ^2 values suggests that all equations have comparable efficacy.

The t-test results are shown in Table 6.11(b). The t-statistic was observed to be lower than the t-critical for all cases. The obtained p-value was greater than 0.05 in all cases, meaning thereby that there was a statistically insignificant difference (DI) between the means of two trials (observed and predicted data). Further, the equations utilizing NR as noise estimating parameter had higher p-values than those using NC, highlighting that NR was more preferable for modeling of traffic jam noise. This observation is similar to Section 6.5 made for floor-wise leg model.

Validation/calibration of developed equation conducted on a different set of data using chi-square test are shown in Table 6.12(a). It was observed that the obtained χ^2 values were significantly lower than the respective critical χ^2 value. Therefore, the models developed were acceptable for prediction of L_{eq} under traffic jam conditions.

The t-test results are shown in Table 6.12(b). It was observed that the t-statistic was lower than the t-critical for all cases. The obtained p-value was greater than 0.05 in all cases, meaning thereby a statistically insignificant difference (DI) between the means of two trials (observed and predicted data).

The overall results of the study are being recommended as consolidated city model as shown in Eq. 6.14.

$$L_{eq} = 69.31 + 0.01(NR) + 0.30\left(\frac{Q_w}{d}\right) + 0.02(p_2) + 0.21(\%AO)$$

$$R^2 = 0.403, \quad SE = 4.030 \tag{6.14}$$

Table 6.1. Regression output for floor-wise leg model

Equation Number			6.1							6.2							6.3			
Output parameters of regression analysis			Inter-cept	Coeff. of NC	Coeff. of PCU/d	Coeff. of $p1$	Coeff. of $\%AO$	R^2	SE	Inter-cept	Coeff. of NC	Coeff. of Qw/d	Coeff. of $p2$	Coeff. of $\%AO$	R^2	SE	Inter-cept	Coeff. of NR	Coeff. of PCU/d	Coeff. of $p1$
Intersection	Leg (Towards)	Floor	(a)	(b)	(c)	(d)	(e)			(a)	(b)	(c)	(d)	(e)			(a)	(b)	(c)	(d)
1. BHU Gate	Naria	GF	34.31	0.53	3.44	1.39	0.19	1.00	0.01	11.56	0.52	5.12	0.90	0.32	0.99	0.16	-22.14	-0.65	11.59	4.92
		FF	53.67	0.56	1.49	0.25	0.20	1.00	0.02	44.61	0.61	0.39	0.24	0.36	1.00	0.05	-23.51	-0.70	12.92	5.01
	Ravidas Gate	GF	61.44	0.84	5.56	-0.25	0.03	0.99	0.22	72.20	0.57	-2.18	0.03	0.34	0.97	0.55	64.70	1.03	2.90	-0.12
	Trauma Centre	BW	99.70	0.01	-2.20	-1.37	0.19	0.99	0.14	112.0	-0.14	-4.91	-0.75	0.34	1.00	0.03	100.64	0.03	-2.28	-1.42
2. Ravidas Gate	Assi	GF	68.80	0.41	-0.88	-0.05	0.31	0.97	0.57	69.80	0.29	-1.63	0.08	0.37	0.98	0.39	73.10	-0.03	0.07	0.00
		FF	68.12	0.35	-0.99	-0.04	0.29	0.97	0.61	68.78	0.25	-2.23	0.08	0.37	0.98	0.42	71.67	-0.00	0.09	-0.00
	BHU	GF	76.85	-0.09	-0.22	0.12	0.17	0.97	0.48	77.23	-0.06	0.96	0.04	0.05	0.98	0.36	77.16	0.33	-1.44	0.10
		FF	76.59	0.15	-0.81	0.09	0.21	0.97	0.49	77.03	0.01	1.12	0.03	0.04	0.98	0.37	77.07	0.30	-1.58	0.11
	Durgakund	GF	77.99	-0.14	-0.57	-0.04	0.24	1.00	0.03	73.20	0.05	0.04	-0.02	0.15	0.99	0.25	76.06	-0.14	-0.27	-0.03
	Lanka Thana	GF	66.95	-0.26	1.30	0.27	0.10	0.99	0.30	67.47	-0.42	-1.23	0.15	0.32	0.99	0.12	67.42	-0.41	2.35	0.32
		FF	66.73	-0.26	1.33	0.26	0.11	0.99	0.30	67.17	-0.41	-1.21	0.15	0.31	0.99	0.14	69.30	-0.73	2.92	0.35
		SF	66.19	-0.28	1.63	0.28	0.10	0.99	0.29	66.74	-0.45	-1.55	0.16	0.34	0.99	0.09	66.48	-0.35	2.59	0.31
3. Lanka-Sankatmochan	Durgakund	GF	73.22	0.09	-0.07	0.09	0.22	1.00	0.00	72.80	0.06	0.38	0.06	0.15	0.99	0.11	71.07	0.29	0.39	0.10
		FF	72.72	0.08	-0.14	0.08	0.23	1.00	0.02	72.34	0.05	0.46	0.05	0.15	0.99	0.13	73.14	0.03	0.05	0.08
		SF	71.50	0.09	-0.17	0.08	0.23	1.00	0.01	71.08	0.05	0.67	0.06	0.14	0.99	0.10	70.12	0.22	0.41	0.09
	Ravidas Gate	BW	85.19	0.19	0.41	-0.02	-0.01	0.98	0.21	81.59	0.45	0.50	0.02	-0.02	0.96	0.31	90.58	-0.32	0.24	-0.07
	Sankat Mochan Temple	GF	87.51	-0.23	-0.09	-0.54	0.12	0.98	0.26	86.32	-0.19	-0.06	0.00	0.08	0.95	0.37	88.29	-0.32	-0.13	-0.02
		FF	86.44	-0.18	-0.58	-0.02	0.12	0.97	0.29	85.50	-0.16	-0.26	0.00	0.10	0.96	0.36	87.70	-0.30	-0.38	-0.04
		SF	87.1	-0.28	-0.93	-0.02	0.13	0.9	0.3	84.6	-0.10	-0.36	-0.01	0.11	0.9	0.4	87.13	-0.33	0.05	-0.01

5. Bhelupur	Assi	GF	69.68	-0.02	-0.17	0.00	0.21	1.00	0.06	70.62	-0.05	-0.12	0.02	0.17	0.99	0.17	69.58	0.00	-0.17
		FF	67.92	0.03	-0.28	0.00	0.21	1.00	0.06	68.95	0.01	-0.24	0.03	0.17	0.99	0.19	67.88	0.03	-0.25
		SF	66.16	-0.01	-0.38	0.00	0.21	1.00	0.08	67.09	-0.02	-0.28	0.03	0.17	0.99	0.19	66.20	-0.01	-0.39
	Durgakund	GF	76.50	0.07	-0.24	-0.01	0.21	1.00	0.03	78.36	0.30	-0.62	0.03	0.23	0.99	0.10	76.71	-0.02	-0.26
	Kamachcha	GF	76.83	0.49	-0.03	-0.06	0.15	0.99	0.12	78.30	0.36	0.39	-0.04	0.06	1.00	0.02	75.22	0.57	-0.02
		FF	75.11	0.52	0.03	-0.07	0.15	0.99	0.18	77.41	0.36	0.62	-0.04	0.05	0.99	0.09	74.81	0.61	-0.18
		SF	75.57	0.40	-0.13	-0.03	0.14	0.99	0.21	77.22	0.27	1.25	-0.04	0.00	1.00	0.01	72.48	0.61	-0.11
	Ramapura	GF	74.25	0.00	0.06	0.00	0.13	0.99	0.26	74.85	-0.04	-0.17	0.00	0.16	0.99	0.20	72.70	0.17	0.04
		FF	73.15	0.01	0.07	0.00	0.13	0.99	0.27	73.83	-0.05	-0.25	0.00	0.16	0.99	0.16	71.75	0.16	0.07
6. Rathyatra	Kamachcha	GF	78.48	0.09	0.51	0.01	0.09	1.00	0.00	78.59	0.16	-2.41	0.08	0.38	0.99	0.17	77.37	0.18	0.58
		FF	77.46	0.10	0.65	0.01	0.09	1.00	0.03	77.46	0.18	-3.17	0.08	0.38	0.99	0.13	75.91	0.21	0.66
		SF	75.94	0.08	0.94	0.01	0.09	1.00	0.00	75.92	0.17	-4.60	0.08	0.40	0.99	0.16	75.04	0.16	1.07
	Mahmoorganj	GF	72.83	-0.13	-0.22	0.01	0.22	0.99	0.26	71.07	-0.19	-0.95	0.04	0.35	0.99	0.10	71.34	0.16	-0.36
		FF	71.30	-0.16	-0.27	0.00	0.23	0.99	0.24	69.67	-0.23	-1.26	0.04	0.35	0.99	0.08	69.89	0.15	-0.54
		SF	69.99	-0.12	-0.43	0.01	0.22	0.99	0.26	68.23	-0.20	-1.86	0.04	0.35	0.99	0.10	68.66	0.17	-0.75
	Sigra	GF	80.40	0.11	-0.19	0.14	0.13	0.99	0.26	80.37	-0.05	0.31	0.03	0.10	0.99	0.21	77.53	0.62	-0.49
7. Sigra	Englishia Line	BW	64.33	0.76	1.27	0.24	0.04	0.97	0.65	65.37	0.25	3.77	-0.16	0.00	0.99	0.24	57.91	1.06	1.98
	Rathyatra	GF	78.96	0.23	0.21	0.07	0.05	0.99	0.27	78.38	0.23	0.33	-0.01	0.05	0.98	0.38	73.70	0.63	0.30
		FF	80.16	-0.17	-0.40	-0.02	0.17	0.99	0.14	81.23	-0.08	-1.07	0.07	0.21	0.99	0.29	85.60	-0.48	-0.60
	Teliyabag	GF	81.24	-1.28	1.22	0.05	0.05	0.99	0.34	78.23	-0.34	0.74	0.00	0.04	0.99	0.93	77.12	-0.68	1.20
		FF	72.03	0.59	-1.16	-0.06	0.29	1.00	0.02	75.54	-0.15	-0.57	-0.01	0.26	0.99	0.36	72.47	0.34	-0.69
		SF	71.80	0.50	-1.42	-0.05	0.28	1.00	0.05	74.13	-0.12	-0.85	-0.01	0.28	0.99	0.36	71.68	0.32	-0.87
8. Englishia line	Andharapul	GF	82.00	-0.15	-0.14	0.03	0.13	0.99	0.07	82.93	-0.25	0.41	0.01	0.07	0.99	0.10	81.09	-0.06	0.07
	Lahartara	BW	80.85	0.13	-2.39	-0.01	0.28	0.99	0.20	81.17	0.03	-0.32	0.00	0.15	0.99	0.14	73.27	0.52	-2.22
	Sigra	BW	67.10	0.41	0.13	0.00	0.15	1.00	0.04	67.23	0.40	-0.19	0.00	0.18	1.00	0.05	71.07	-0.12	0.87
9. Andharapul	Chaukaghat	BW	81.12	-0.46	0.04	-0.03	0.17	0.99	0.10	80.24	-0.48	-0.18	0.00	0.21	0.99	0.11	54.04	-0.48	2.63
	Englishia Line	BW	82.61	0.18	0.16	-0.02	0.10	0.99	0.09	87.61	0.06	-0.30	0.03	0.05	1.00	0.00	85.90	-0.28	0.05
	Nadesar	BW	78.87	-0.31	-0.47	-0.04	0.28	0.99	0.20	76.34	0.01	0.09	-0.01	0.12	0.99	0.33	78.85	-0.23	-0.20
	Teliyabag	BW	70.13	-0.28	-0.07	0.00	0.19	0.99	0.21	70.29	-0.31	-0.31	0.00	0.22	0.99	0.23	68.28	0.03	-0.09
10. Chaukaghat	Andharapul	BW	104.03	-0.79	0.88	-0.24	-0.11	0.98	0.37	90.11	-0.03	-0.96	-0.07	0.17	0.98	0.34	73.02	0.43	2.03
	City Railway Station	BW	75.74	-0.15	0.15	0.02	0.19	1.00	0.06	79.45	-0.21	-0.26	-0.02	0.21	1.00	0.04	81.26	0.22	-1.06
	Maqbool Alam Road	GF	75.17	0.09	-0.40	0.04	0.17	0.99	0.36	75.17	0.09	-0.40	0.04	0.17	0.99	0.25	60.82	1.52	1.79
		FF	75.81	-0.16	-0.23	0.01	0.15	0.99	0.37	74.55	0.06	-0.44	0.04	0.16	0.99	0.24	59.18	2.53	2.65

11. Godowlia	Girjaghar	GF	74.16	-0.07	0.61	0.00	0.09	0.99	0.20	77.15	-0.07	0.00	0.00	0.18	0.95	0.46	74.43	-0.05	0.59
		FF	72.90	-0.07	0.85	0.00	0.09	0.99	0.20	75.91	-0.10	0.00	0.00	0.18	0.95	0.44	73.02	-0.05	0.83
	Lanka	GF	65.19	0.64	1.12	0.00	0.05	0.98	0.58	73.73	0.06	0.00	0.00	0.28	0.94	0.57	67.78	0.56	0.19
		FF	63.14	0.65	1.83	0.00	0.04	0.98	0.52	72.04	0.06	0.00	0.00	0.29	0.94	0.58	66.81	0.50	0.24
		SF	71.50	0.09	-0.17	0.08	0.23	1.00	0.01	71.08	0.05	0.67	0.06	0.14	0.99	0.10	70.12	0.22	0.41
12. Girjaghar	Godowlia	GF	77.36	-0.02	-0.01	0.00	0.12	0.99	0.21	77.31	-0.02	0.00	0.00	0.12	0.99	0.21	79.71	-0.26	-0.07
		FF	76.40	-0.01	-0.03	0.00	0.12	0.99	0.17	76.32	0.00	0.00	0.00	0.11	0.99	0.18	77.88	-0.16	-0.10
	Lahurabir	GF	77.43	0.07	-0.20	0.00	0.16	0.99	0.21	77.63	0.07	-0.14	0.00	0.15	0.99	0.29	76.97	0.08	-0.12
		FF	76.09	0.08	-0.26	0.00	0.16	0.99	0.23	76.35	0.07	-0.24	0.00	0.15	0.99	0.27	75.77	0.08	-0.12
		SF	74.43	0.07	-0.42	0.00	0.17	0.99	0.18	74.55	0.07	-0.16	0.00	0.15	0.99	0.29	73.81	0.09	-0.24
	Luxa	GF	76.96	-0.16	0.51	-0.01	0.10	0.99	0.14	79.78	-0.09	0.23	0.01	0.08	0.99	0.26	82.44	-0.71	0.06
		FF	75.19	-0.18	0.81	-0.01	0.10	0.99	0.13	78.16	-0.12	0.35	0.01	0.08	0.99	0.27	84.66	-1.45	0.11
		SF	72.97	-0.12	1.06	-0.02	0.11	0.99	0.16	75.97	-0.06	0.50	0.01	0.08	0.99	0.27	76.39	-0.45	0.38
	Ramapura	GF	79.51	-0.29	-0.11	0.00	0.13	0.97	0.48	78.44	-0.26	0.01	0.00	0.12	0.98	0.35	69.13	0.54	0.09
		FF	77.17	-0.23	-0.16	0.00	0.13	0.97	0.48	75.97	-0.21	-0.07	0.00	0.14	0.98	0.42	67.12	0.56	0.13
13. Bhikharipur	Chitaipur	GF	81.81	-0.15	0.10	0.08	0.09	0.99	0.11	81.09	-0.08	0.16	0.02	0.09	0.99	0.18	79.17	0.05	0.11
	DLW	BW	77.45	1.22	-0.61	-0.23	0.20	0.99	0.16	79.30	1.95	-1.11	-0.24	0.24	1.00	0.09	78.16	-0.74	1.10
	Sundarpur	GF	70.74	0.05	1.40	0.40	0.08	0.99	0.05	81.84	0.02	0.51	0.04	0.07	0.99	0.04	73.83	0.02	1.00
		FF	65.85	0.06	2.28	0.51	0.07	0.99	0.05	80.28	0.02	0.67	0.05	0.07	1.00	0.03	63.48	0.04	2.51
		SF	81.44	0.04	0.09	0.08	0.10	0.99	0.07	82.18	0.03	0.58	0.02	0.07	0.99	0.05	82.01	0.04	-0.08
14. Manduadih	DLW	GF	76.21	0.04	-0.46	-0.04	0.24	1.00	0.08	77.67	-0.11	0.36	-0.03	0.09	0.99	0.19	79.59	-0.37	-0.38
	Lahartara	GF	77.24	-0.10	-1.48	-0.14	0.33	0.99	0.17	74.67	0.14	0.52	-0.04	0.11	0.99	0.27	83.45	-0.79	-1.75
	Mahmoorganj	GF	66.42	0.30	-1.14	-0.08	0.31	1.00	0.01	64.42	0.36	0.12	-0.02	0.13	0.99	0.16	73.47	-0.17	-2.99
		FF	65.56	0.30	-1.37	-0.08	0.30	1.00	0.03	63.75	0.35	0.14	-0.02	0.13	0.99	0.13	71.37	-0.08	-3.51
	Manduadih Police Station	GF	72.07	-0.03	-0.32	0.01	0.20	0.99	0.13	70.30	0.09	0.23	0.00	0.12	1.00	0.02	77.48	-0.61	-0.29
		FF	63.01	0.41	0.16	0.02	0.16	0.99	0.10	65.28	0.16	0.39	0.00	0.13	1.00	0.04	69.36	-0.27	-0.63
		SF	66.28	-0.19	-1.53	0.01	0.22	1.00	0.08	62.80	0.09	0.91	0.00	0.11	1.00	0.01	65.92	-0.17	-1.12
15. Lahartara-Manduadih	Cantt Railway Station	GF	73.23	-0.22	0.82	0.11	0.13	0.99	0.33	81.12	-0.59	0.60	-0.05	0.14	0.99	0.11	61.28	1.32	2.92
		FF	72.09	-0.10	0.96	0.11	0.12	0.99	0.35	82.92	-0.76	0.93	-0.08	0.10	1.00	0.10	68.04	0.81	1.36
	Manduadih	GF	68.85	0.11	-0.17	0.00	0.19	1.00	0.04	67.89	0.09	0.23	0.01	0.14	1.00	0.05	53.27	1.37	0.31
		FF	66.78	-0.19	0.73	0.06	0.12	1.00	0.06	68.80	-0.14	-0.68	0.00	0.26	1.00	0.07	66.33	0.06	0.20
	Mohan Sarai	GF	108.55	0.22	-1.51	-0.58	0.01	0.99	0.08	100.	0.03	-1.15	-0.22	0.09	1.00	0.02	93.77	-0.10	-1.08
		FF	190.09	1.06	-5.35	-2.43	-0.55	1.00	0.02	100.7	0.03	-1.47	-0.23	0.09	1.00	0.01	89.05	0.75	-1.73
16. Radisson	PWD Office	GF	76.87	0.05	-0.58	-0.05	0.22	0.99	0.12	80.32	0.27	0.31	-0.14	0.06	0.99	0.12	77.68	-0.16	-0.67

17. Bhojubir	Bhojubir	GF	61.13	0.45	0.71	0.20	0.15	0.99	0.29	48.92	0.53	1.16	0.23	0.16	0.99	0.26	84.48	-2.88	-1.28
		FF	60.07	0.56	1.42	0.20	0.06	1.00	0.01	41.39	0.53	1.04	0.31	0.27	1.00	0.04	69.50	-0.15	-0.41
		SF	57.00	0.62	1.78	0.22	0.09	0.99	0.25	43.33	0.56	1.75	0.27	0.20	0.99	0.23	60.79	0.60	0.25
	Circuit House	GF	91.08	-0.04	-1.74	-0.45	0.10	1.00	0.04	80.82	0.05	-0.98	-0.11	0.14	0.99	0.08	86.70	0.11	-1.26
		FF	89.99	-0.04	-2.02	-0.43	0.11	1.00	0.04	80.04	0.09	-1.28	-0.11	0.15	1.00	0.02	84.74	0.13	-1.36
	Orderly Bazar	GF	78.51	0.04	-0.48	-0.01	0.25	1.00	0.04	79.15	-0.03	0.02	0.00	0.16	0.99	0.32	78.73	0.01	-0.47
		FF	78.33	-0.02	-0.66	-0.02	0.26	1.00	0.06	77.82	0.04	0.14	0.00	0.15	0.99	0.35	79.07	-0.08	-0.61
18. Pandeypur	Hakul Ganj	GF	70.12	0.01	0.19	0.00	0.16	0.99	0.16	70.70	-0.15	-1.19	0.01	0.29	1.00	0.06	75.88	-0.46	0.04
		FF	68.88	0.03	0.41	0.00	0.15	0.99	0.15	69.61	-0.15	-1.57	0.01	0.29	1.00	0.08	75.52	-0.49	-0.06
		SF	68.03	0.00	0.17	-0.01	0.17	0.99	0.15	68.45	-0.13	-1.76	0.01	0.28	1.00	0.08	72.55	-0.36	0.00
	Khajuri	GF	67.85	-0.31	-0.28	-0.05	0.25	1.00	0.01	67.13	-0.19	0.24	-0.02	0.14	0.99	0.11	65.53	0.05	-0.10
		FF	66.53	-0.32	-0.33	-0.04	0.23	1.00	0.00	65.89	-0.22	0.31	-0.02	0.14	0.99	0.10	64.19	0.03	-0.16
		SF	64.16	-0.30	-0.70	-0.06	0.27	1.00	0.03	63.42	-0.17	0.61	-0.02	0.14	0.99	0.11	62.05	0.05	-0.25
	Lalpur	GF	80.52	-0.11	0.41	-0.01	0.07	1.00	0.02	78.44	-0.11	0.64	0.02	0.03	1.00	0.02	79.97	-0.05	0.27
	Paharia	GF	72.86	0.69	0.13	0.17	0.11	0.99	0.15	71.29	0.65	0.40	0.10	0.08	0.99	0.09	77.81	0.06	0.45
	Police Line	GF	72.31	-0.15	-0.63	0.01	0.18	0.99	0.26	72.64	-0.05	0.81	-0.02	-0.04	0.99	0.20	69.04	0.27	1.51
19. Police Line	Kutchhary	GF	176.57	1.79	-7.05	-4.07	0.31	0.99	0.30	135.8	0.74	-1.34	-1.02	-0.14	0.99	0.34	101.16	0.75	-2.15
		FF	149.46	1.17	-6.00	-2.99	0.18	0.99	0.33	106.7	0.14	-1.29	-0.48	0.06	0.98	0.46	106.25	0.59	-2.62
		SF	214.98	2.73	-16.20	-5.86	0.33	0.99	0.32	108.7	0.19	-1.76	-0.54	0.05	0.98	0.49	109.79	0.97	-4.75
	Maqbool Alam Road	GF	141.56	-0.30	-5.51	-1.70	0.23	1.00	0.07	127.4	-0.31	-3.92	-0.66	0.29	1.00	0.00	149.06	-0.63	-5.24
		FF	85.29	-0.23	-0.85	-0.10	0.18	0.99	0.09	82.19	-0.06	-0.83	-0.07	0.19	0.99	0.18	92.55	-0.87	-0.53
	Orderly Bazar	GF	76.97	0.19	-0.90	-0.03	0.30	0.99	0.11	76.14	0.00	0.73	-0.04	0.03	0.99	0.09	79.21	0.37	-3.11
	Pandeypur	GF	79.32	-0.09	-0.67	0.03	0.20	0.99	0.28	56.78	2.62	-7.14	0.12	0.83	1.00	0.02	77.69	0.08	-0.43
							sum		21.3							22.5			

Table 6.2(a). Check for adequacy of model developed for floor-wise leg (chi-square test)

Equation Number			**6.1**			**6.2**			**6.3**			**6.4**		
Output of $\chi 2$ test			Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value
Intersection	Leg (Towards)	Floor												
1. BHU Gate	Naria	GF	0.004	15	25.00	0.002	15	25.00	0.003	15	25.00	0.003	15	25.00
		FF	0.000	15	25.00	0.006	15	25.00	0.008	15	25.00	0.003	15	25.00
	Ravidas Gate	GF	0.003	15	25.00	0.004	15	25.00	0.002	15	25.00	0.003	15	25.00
	Trauma Centre	BW	14.825	15	25.00	0.227	15	25.00	6.993	15	25.00	0.592	15	25.00
2. Ravidas Gate	Assi	GF	0.005	15	25.00	0.007	15	25.00	0.006	15	25.00	0.011	15	25.00
		FF	0.005	15	25.00	0.007	15	25.00	0.007	15	25.00	0.005	15	25.00
	BHU	GF	0.011	15	25.00	0.003	15	25.00	0.000	15	25.00	0.004	15	25.00
		FF	0.006	15	25.00	0.011	15	25.00	0.000	15	25.00	0.002	15	25.00
	Durgakund	GF	0.002	15	25.00	0.007	15	25.00	0.001	15	25.00	0.007	15	25.00
	Lanka Thana	GF	0.002	15	25.00	0.003	15	25.00	0.002	15	25.00	0.002	15	25.00
		FF	0.002	15	25.00	0.001	15	25.00	0.001	15	25.00	0.003	15	25.00
		SF	0.001	15	25.00	0.000	15	25.00	0.002	15	25.00	0.001	15	25.00
3. Lanka-Sankatmochan	Durgakund	GF	0.000	15	25.00	0.003	15	25.00	0.008	15	25.00	0.007	15	25.00
		FF	0.479	15	25.00	0.002	15	25.00	0.000	15	25.00	0.001	15	25.00
		SF	0.000	15	25.00	0.002	15	25.00	0.005	15	25.00	0.003	15	25.00
	Ravidas Gate	BW	0.001	15	25.00	0.002	15	25.00	0.003	15	25.00	0.000	15	25.00

	Sankat Mochan Temple	GF	1.870	15	25.00	0.003	15	25.00	0.000	15	25.00	0.006	15	25.00
		FF	0.003	15	25.00	0.006	15	25.00	0.005	15	25.00	0.001	15	25.00
		SF	0.003	15	25.00	0.003	15	25.00	0.009	15	25.00	0.000	15	25.00
4. Durgakund Temple	Bhelupur	GF	0.003	15	25.00	0.003	15	25.00	0.003	15	25.00	0.001	15	25.00
		FF	0.000	15	25.00	0.000	15	25.00	0.000	15	25.00	0.000	15	25.00
	Ravidas Gate	GF	0.001	15	25.00	0.002	15	25.00	0.007	15	25.00	0.000	15	25.00
5. Bhelupur	Assi	GF	0.000	15	25.00	0.001	15	25.00	0.000	15	25.00	0.001	15	25.00
		FF	0.002	15	25.00	0.001	15	25.00	0.002	15	25.00	0.002	15	25.00
		SF	0.000	15	25.00	0.002	15	25.00	0.001	15	25.00	0.002	15	25.00
	Durgakund	GF	0.000	15	25.00	0.005	15	25.00	0.000	15	25.00	0.002	15	25.00
	Kamachcha	GF	0.000	15	25.00	0.000	15	25.00	0.006	15	25.00	0.002	15	25.00
		FF	0.000	15	25.00	0.000	15	25.00	0.001	15	25.00	0.000	15	25.00
		SF	0.001	15	25.00	0.001	15	25.00	0.001	15	25.00	0.000	15	25.00
	Ramapura	GF	0.007	15	25.00	0.003	15	25.00	0.001	15	25.00	0.001	15	25.00
		FF	0.008	15	25.00	0.002	15	25.00	0.008	15	25.00	0.001	15	25.00
6. Rathyatra	Kamachcha	GF	0.004	15	25.00	0.001	15	25.00	0.002	15	25.00	0.001	15	25.00
		FF	0.003	15	25.00	0.002	15	25.00	0.003	15	25.00	0.007	15	25.00
		SF	0.003	15	25.00	0.000	15	25.00	0.005	15	25.00	0.007	15	25.00
	Mahmoorganj	GF	0.003	15	25.00	0.001	15	25.00	0.001	15	25.00	0.002	15	25.00
		FF	0.002	15	25.00	0.004	15	25.00	0.004	15	25.00	0.009	15	25.00
		SF	0.001	15	25.00	0.000	15	25.00	0.005	15	25.00	0.002	15	25.00
	Sigra	GF	0.001	15	25.00	0.004	15	25.00	0.002	15	25.00	0.002	15	25.00

7. Sigra	Englishia Line	BW	0.008	15	25.00	0.005	15	25.00	0.001	15	25.00	0.011	15	25.00
	Rathyatra	GF	0.003	15	25.00	0.002	15	25.00	0.003	15	25.00	0.002	15	25.00
		FF	0.003	15	25.00	0.005	15	25.00	0.001	15	25.00	0.004	15	25.00
	Teliyabag	GF	0.004	15	25.00	0.004	15	25.00	0.013	15	25.00	0.000	15	25.00
		FF	0.000	15	25.00	0.006	15	25.00	0.003	15	25.00	0.008	15	25.00
		SF	0.001	15	25.00	0.002	15	25.00	0.000	15	25.00	0.001	15	25.00
8. Englishia line	Andharapul	GF	0.008	15	25.00	0.025	15	25.00	0.002	15	25.00	0.001	15	25.00
	Lahartara	BW	0.001	15	25.00	0.001	15	25.00	0.006	15	25.00	0.012	15	25.00
	Sigra	BW	0.184	15	25.00	0.289	15	25.00	0.104	15	25.00	0.587	15	25.00
9. Andharapul	Chaukaghat	BW	0.006	15	25.00	0.006	15	25.00	0.012	15	25.00	0.003	15	25.00
	Englishia Line	BW	0.001	15	25.00	0.001	15	25.00	0.001	15	25.00	0.001	15	25.00
	Nadesar	BW	0.003	15	25.00	0.003	15	25.00	0.000	15	25.00	0.001	15	25.00
	Teliyabag	BW	0.004	15	25.00	0.006	15	25.00	0.005	15	25.00	0.004	15	25.00
10. Chaukaghat	Andharapul	BW	0.002	15	25.00	0.009	15	25.00	0.007	15	25.00	0.002	15	25.00
	City Railway Station	BW	0.002	15	25.00	0.001	15	25.00	0.003	15	25.00	0.001	15	25.00
	Maqbool Alam Road	GF	0.059	15	25.00	0.010	15	25.00	0.001	15	25.00	0.001	15	25.00
		FF	0.002	15	25.00	0.002	15	25.00	0.001	15	25.00	0.002	15	25.00
	Nadesar	GF	0.004	15	25.00	0.000	15	25.00	0.002	15	25.00	0.000	15	25.00
		FF	0.002	15	25.00	0.009	15	25.00	0.002	15	25.00	0.001	15	25.00
	Teliyabag	GF	0.001	15	25.00	0.005	15	25.00	0.003	15	25.00	0.002	15	25.00
		FF	0.003	15	25.00	0.000	15	25.00	0.002	15	25.00	0.005	15	25.00

11. Godowlia	Girjaghar	GF	0.001	15	25.00	0.010	15	25.00	0.001	15	25.00	0.007	15	25.00
		FF	0.001	15	25.00	0.008	15	25.00	0.001	15	25.00	0.007	15	25.00
	Lanka	GF	0.004	15	25.00	0.014	15	25.00	0.064	15	25.00	0.007	15	25.00
		FF	0.004	15	25.00	0.014	15	25.00	0.008	15	25.00	0.009	15	25.00
		SF	0.067	15	25.00	0.103	15	25.00	0.031	15	25.00	0.050	15	25.00
12. Girjaghar	Godowlia	GF	0.005	15	25.00	0.005	15	25.00	0.000	15	25.00	0.001	15	25.00
		FF	0.002	15	25.00	0.005	15	25.00	0.002	15	25.00	0.000	15	25.00
	Lahurabir	GF	0.006	15	25.00	0.002	15	25.00	0.005	15	25.00	0.003	15	25.00
		FF	0.001	15	25.00	0.004	15	25.00	0.005	15	25.00	0.002	15	25.00
		SF	0.003	15	25.00	0.006	15	25.00	0.006	15	25.00	0.001	15	25.00
	Luxa	GF	0.000	15	25.00	0.001	15	25.00	0.001	15	25.00	0.001	15	25.00
		FF	0.001	15	25.00	0.002	15	25.00	0.002	15	25.00	0.001	15	25.00
		SF	0.003	15	25.00	0.003	15	25.00	0.001	15	25.00	0.003	15	25.00
	Ramapura	GF	0.003	15	25.00	0.008	15	25.00	0.006	15	25.00	0.004	15	25.00
		FF	0.005	15	25.00	0.004	15	25.00	0.002	15	25.00	0.006	15	25.00
13. Bhikharipur	Chitaipur	GF	0.000	15	25.00	0.009	15	25.00	0.003	15	25.00	0.000	15	25.00
	DLW	BW	0.002	15	25.00	0.002	15	25.00	0.002	15	25.00	0.008	15	25.00
	Sundarpur	GF	0.002	15	25.00	0.002	15	25.00	0.003	15	25.00	0.001	15	25.00
		FF	0.001	15	25.00	0.007	15	25.00	0.001	15	25.00	0.371	15	25.00
		SF	0.004	15	25.00	0.005	15	25.00	0.000	15	25.00	0.000	15	25.00

14. Manduadih	DLW	GF	0.002	15	25.00	0.001	15	25.00	0.017	15	25.00	0.000	15	25.00
	Lahartara	GF	0.003	15	25.00	0.002	15	25.00	0.006	15	25.00	0.003	15	25.00
	Mahmoorganj	GF	0.002	15	25.00	0.001	15	25.00	0.003	15	25.00	0.006	15	25.00
		FF	0.000	15	25.00	0.001	15	25.00	0.002	15	25.00	0.006	15	25.00
	Manduadih Police Station	GF	0.001	15	25.00	0.004	15	25.00	0.000	15	25.00	0.004	15	25.00
		FF	0.004	15	25.00	0.000	15	25.00	0.003	15	25.00	0.001	15	25.00
		SF	0.004	15	25.00	0.000	15	25.00	0.000	15	25.00	0.000	15	25.00
15. Lahartara-Manduadih	Cantt Railway Station	GF	0.002	15	25.00	0.004	15	25.00	0.004	15	25.00	0.003	15	25.00
		FF	0.002	15	25.00	0.006	15	25.00	0.004	15	25.00	0.002	15	25.00
	Manduadih	GF	0.001	15	25.00	0.001	15	25.00	0.000	15	25.00	0.000	15	25.00
		FF	0.000	15	25.00	0.003	15	25.00	0.001	15	25.00	0.000	15	25.00
	Mohan Sarai	GF	0.004	15	25.00	0.002	15	25.00	0.001	15	25.00	0.006	15	25.00
		FF	0.003	15	25.00	0.003	15	25.00	0.003	15	25.00	0.000	15	25.00
16. Radisson - Varuna Bridge	PWD Office	GF	0.000	15	25.00	0.002	15	25.00	0.004	15	25.00	0.003	15	25.00
	The Mall Road	GF	0.002	15	25.00	0.000	15	25.00	0.003	15	25.00	0.003	15	25.00
		FF	0.001	15	25.00	0.002	15	25.00	0.000	15	25.00	0.001	15	25.00
		SF	0.000	15	25.00	0.002	15	25.00	0.001	15	25.00	0.016	15	25.00
	TV Tower	BW	0.000	15	25.00	0.002	15	25.00	0.002	15	25.00	0.005	15	25.00

17. Bhojubir	Bhojubir	GF	0.005	15	25.00	0.004	15	25.00	0.002	15	25.00	0.007	15	25.00
		FF	0.003	15	25.00	0.002	15	25.00	0.004	15	25.00	0.002	15	25.00
		SF	0.001	15	25.00	0.002	15	25.00	0.002	15	25.00	0.006	15	25.00
	Circuit House	GF	0.004	15	25.00	0.005	15	25.00	0.000	15	25.00	0.001	15	25.00
		FF	0.000	15	25.00	0.001	15	25.00	0.001	15	25.00	0.001	15	25.00
	Orderly Bazar	GF	0.000	15	25.00	0.001	15	25.00	0.000	15	25.00	0.002	15	25.00
		FF	0.000	15	25.00	0.006	15	25.00	0.001	15	25.00	0.002	15	25.00
18. Pandeypur	Hakul Ganj	GF	0.000	15	25.00	0.000	15	25.00	0.002	15	25.00	0.004	15	25.00
		FF	0.000	15	25.00	0.001	15	25.00	0.001	15	25.00	0.002	15	25.00
		SF	0.000	15	25.00	0.006	15	25.00	0.001	15	25.00	0.004	15	25.00
	Khajuri	GF	0.000	15	25.00	0.000	15	25.00	0.001	15	25.00	0.001	15	25.00
		FF	0.001	15	25.00	0.002	15	25.00	0.003	15	25.00	0.003	15	25.00
		SF	0.002	15	25.00	0.004	15	25.00	0.001	15	25.00	0.003	15	25.00
	Lalpur	GF	0.002	15	25.00	0.001	15	25.00	0.003	15	25.00	0.000	15	25.00
	Paharia	GF	0.004	15	25.00	0.000	15	25.00	0.001	15	25.00	0.002	15	25.00
	Police Line	GF	0.004	15	25.00	0.006	15	25.00	0.000	15	25.00	0.001	15	25.00
19. Police Line	Kutchhary	GF	0.005	15	25.00	0.008	15	25.00	0.003	15	25.00	0.004	15	25.00
		FF	0.002	15	25.00	0.004	15	25.00	0.008	15	25.00	0.003	15	25.00
		SF	0.002	15	25.00	0.003	15	25.00	0.002	15	25.00	0.000	15	25.00
	Maqbool Alam Road	GF	0.005	15	25.00	0.001	15	25.00	0.003	15	25.00	0.003	15	25.00
		FF	0.010	15	25.00	0.000	15	25.00	0.000	15	25.00	0.003	15	25.00
	Orderly Bazar	GF	0.000	15	25.00	0.006	15	25.00	0.001	15	25.00	0.000	15	25.00
	Pandeypur	GF	0.007	15	25.00	0.001	15	25.00	0.001	15	25.00	0.003	15	25.00
	sum =		17.772			1.042			7.524			1.943		

Table 6.2(b). Check for adequacy of model developed for floor-wise leg (t-test)

Equation Number			6.1					6.2					6.		
Output of t-test			P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t-Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t-Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*
Intersection	Leg (Towards)	Floor													
1. BHU Gate	Naria	GF	0.803	*DI*	10	0.256	2.228	0.863	*DI*	10	0.177	2.228	0.889	*DI*	10
		FF	0.976	*DI*	10	0.031	2.228	0.752	*DI*	10	0.325	2.228	0.740	*DI*	10
	Ravidas Gate	GF	0.838	*DI*	10	0.210	2.228	0.896	*DI*	10	-0.135	2.228	0.865	*DI*	10
	Trauma Centre	BW	0.000	*DS*	10	-5.552	2.228	0.159	*DI*	10	-1.521	2.228	0.000	*DS*	10
2. Ravidas Gate	Assi	GF	0.888	*DI*	10	0.145	2.228	0.790	*DI*	10	-0.273	2.228	0.991	*DI*	10
		FF	0.930	*DI*	10	0.090	2.228	0.789	*DI*	10	0.275	2.228	0.919	*DI*	10
	BHU	GF	0.701	*DI*	10	0.395	2.228	0.879	*DI*	10	-0.156	2.228	0.985	*DI*	10
		FF	0.801	*DI*	10	-0.259	2.228	0.686	*DI*	10	-0.416	2.228	0.942	*DI*	10
	Durgakund	GF	0.829	*DI*	10	-0.222	2.228	0.695	*DI*	10	0.404	2.228	0.872	*DI*	10
	Lanka Thana	GF	0.924	*DI*	10	0.098	2.228	0.870	*DI*	10	0.168	2.228	0.967	*DI*	10
		FF	0.916	*DI*	10	-0.108	2.228	0.917	*DI*	10	0.107	2.228	0.999	*DI*	10
		SF	0.993	*DI*	10	0.009	2.228	0.999	*DI*	10	0.001	2.228	1.000	*DI*	10
3. Lanka-Sankatmochan	Durgakund	GF	0.975	*DI*	10	0.032	2.228	0.849	*DI*	10	-0.195	2.228	0.769	*DI*	10
		FF	0.052	*DI*	10	2.200	2.228	0.902	*DI*	10	-0.126	2.228	0.992	*DI*	10
		SF	0.998	*DI*	10	0.003	2.228	0.891	*DI*	10	-0.141	2.228	0.800	*DI*	10
	Ravidas Gate	BW	0.970	*DI*	10	0.038	2.228	0.780	*DI*	10	0.286	2.228	0.695	*DI*	10
	Sankat Mochan Temple	GF	0.000	*DS*	10	5.938	2.228	0.801	*DI*	10	0.259	2.228	0.994	*DI*	10
		FF	0.715	*DI*	10	0.376	2.228	0.610	*DI*	10	0.526	2.228	0.615	*DI*	10
		SF	0.714	*DI*	10	0.377	2.228	0.809	*DI*	10	0.248	2.228	0.480	*DI*	10
4. Durgakund Temple	Bhelupur	GF	0.655	*DI*	10	0.460	2.228	0.640	*DI*	10	-0.483	2.228	0.670	*DI*	10

5. Bhelupur	Assi	GF	0.972	*DI*	10	-0.035	2.228	0.964	*DI*	10	-0.046	2.228	0.945	*DI*	10
		FF	0.866	*DI*	10	0.173	2.228	0.932	*DI*	10	0.087	2.228	0.877	*DI*	10
		SF	0.962	*DI*	10	0.049	2.228	0.886	*DI*	10	-0.147	2.228	0.920	*DI*	10
	Durgakund	GF	0.915	*DI*	10	0.110	2.228	0.721	*DI*	10	-0.367	2.228	0.990	*DI*	10
	Kamachcha	GF	0.960	*DI*	10	0.052	2.228	0.939	*DI*	10	0.079	2.228	0.752	*DI*	10
		FF	0.975	*DI*	10	0.032	2.228	0.989	*DI*	10	0.014	2.228	0.914	*DI*	10
		SF	0.898	*DI*	10	0.132	2.228	0.868	*DI*	10	0.171	2.228	0.912	*DI*	10
	Ramapura	GF	0.713	*DI*	10	0.378	2.228	0.889	*DI*	10	-0.144	2.228	0.937	*DI*	10
		FF	0.705	*DI*	10	0.390	2.228	0.998	*DI*	10	-0.002	2.228	0.679	*DI*	10
6. Rathyatra	Kamachcha	GF	0.782	*DI*	10	-0.284	2.228	0.915	*DI*	10	0.110	2.228	0.821	*DI*	10
		FF	0.810	*DI*	10	-0.247	2.228	0.841	*DI*	10	0.206	2.228	0.805	*DI*	10
		SF	0.799	*DI*	10	-0.262	2.228	0.985	*DI*	10	0.019	2.228	0.754	*DI*	10
	Mahmoorganj	GF	0.877	*DI*	10	0.159	2.228	0.919	*DI*	10	-0.105	2.228	0.963	*DI*	10
		FF	0.892	*DI*	10	-0.139	2.228	0.813	*DI*	10	-0.243	2.228	0.818	*DI*	10
		SF	0.979	*DI*	10	0.027	2.228	0.994	*DI*	10	-0.008	2.228	0.810	*DI*	10
	Sigra	GF	0.925	*DI*	10	-0.097	2.228	0.810	*DI*	10	-0.247	2.228	0.916	*DI*	10
7. Sigra	Englishia Line	BW	0.884	*DI*	10	-0.150	2.228	0.834	*DI*	10	0.215	2.228	0.939	*DI*	10
	Rathyatra	GF	0.841	*DI*	10	0.206	2.228	0.910	*DI*	10	-0.116	2.228	0.892	*DI*	10
		FF	0.839	*DI*	10	0.208	2.228	0.786	*DI*	10	0.279	2.228	0.971	*DI*	10
	Teliyabag	GF	0.861	*DI*	10	0.179	2.228	0.847	*DI*	10	-0.198	2.228	0.891	*DI*	10
		FF	0.948	*DI*	10	0.067	2.228	0.824	*DI*	10	0.228	2.228	0.861	*DI*	10
		SF	0.902	*DI*	10	0.127	2.228	0.963	*DI*	10	0.048	2.228	0.990	*DI*	10
8. Englishia line	Andharapul	GF	0.706	*DI*	10	-0.388	2.228	0.522	*DI*	10	0.664	2.228	0.884	*DI*	10
	Lahartara	BW	0.871	*DI*	10	-	2.228	0.894	*DI*	10	-	2.228	0.689	*DI*	10

9. Andharapul	Chaukaghat	BW	0.796	*DI*	10	0.266	2.228	0.792	*DI*	10	-0.271	2.228	0.724	*DI*	10
	Englishia Line	BW	0.744	*DI*	10	-0.336	2.228	0.842	*DI*	10	0.204	2.228	0.813	*DI*	10
	Nadesar	BW	0.874	*DI*	10	-0.162	2.228	0.893	*DI*	10	-0.138	2.228	0.970	*DI*	10
	Teliyabag	BW	0.901	*DI*	10	0.128	2.228	0.836	*DI*	10	-0.212	2.228	0.892	*DI*	10
10. Chaukaghat	Andharapul	BW	0.891	*DI*	10	0.140	2.228	0.657	*DI*	10	-0.457	2.228	0.713	*DI*	10
	City Railway Station	BW	0.878	*DI*	10	0.158	2.228	0.936	*DI*	10	0.082	2.228	0.867	*DI*	10
	Maqbool Alam Road	GF	0.549	*DI*	10	-0.621	2.228	0.763	*DI*	10	-0.309	2.228	0.918	*DI*	10
		FF	0.932	*DI*	10	0.087	2.228	0.933	*DI*	10	0.086	2.228	0.941	*DI*	10
	Nadesar	GF	0.826	*DI*	10	-0.225	2.228	0.951	*DI*	10	-0.063	2.228	0.897	*DI*	10
		FF	0.884	*DI*	10	-0.150	2.228	0.773	*DI*	10	-0.297	2.228	0.878	*DI*	10
	Teliyabag	GF	0.948	*DI*	10	-0.067	2.228	0.827	*DI*	10	0.224	2.228	0.929	*DI*	10
		FF	0.926	*DI*	10	-0.095	2.228	0.957	*DI*	10	-0.055	2.228	0.985	*DI*	10
11. Godowlia	Girjaghar	GF	0.983	*DI*	10	-0.021	2.228	0.851	*DI*	10	-0.193	2.228	0.958	*DI*	10
		FF	0.998	*DI*	10	0.003	2.228	0.907	*DI*	10	-0.120	2.228	0.949	*DI*	10
	Lanka	GF	0.989	*DI*	10	-0.014	2.228	0.877	*DI*	10	0.159	2.228	0.423	*DI*	10
		FF	0.974	*DI*	10	0.034	2.228	0.910	*DI*	10	-0.117	2.228	0.912	*DI*	10
		SF	0.472	*DI*	10	0.747	2.228	0.318	*DI*	10	1.051	2.228	0.762	*DI*	10
12. Girjaghar	Godowlia	GF	0.773	*DI*	10	-0.296	2.228	0.764	*DI*	10	-0.308	2.228	0.956	*DI*	10
		FF	0.852	*DI*	10	-0.191	2.228	0.743	*DI*	10	0.337	2.228	0.856	*DI*	10
	Lahurabir	GF	0.741	*DI*	10	0.340	2.228	0.910	*DI*	10	0.115	2.228	0.782	*DI*	10
		FF	0.979	*DI*	10	0.026	2.228	0.812	*DI*	10	0.244	2.228	0.796	*DI*	10
		SF	0.849	*DI*	10	-	2.228	0.776	*DI*	10	-	2.228	0.735	*DI*	10

13. Bhikharipur	Chitaipur	GF	0.979	*DI*	10	0.027	2.228	0.748	*DI*	10	0.331	2.228	0.865	*DI*	10
	DLW	BW	0.931	*DI*	10	-0.089	2.228	0.915	*DI*	10	0.109	2.228	0.910	*DI*	10
	Sundarpur	GF	0.761	*DI*	10	-0.312	2.228	0.715	*DI*	10	0.375	2.228	0.694	*DI*	10
		FF	0.814	*DI*	10	-0.241	2.228	0.523	*DI*	10	0.662	2.228	0.820	*DI*	10
		SF	0.646	*DI*	10	-0.473	2.228	0.620	*DI*	10	-0.512	2.228	0.958	*DI*	10
14. Manduadih	DLW	GF	0.898	*DI*	10	-0.132	2.228	0.961	*DI*	10	-0.050	2.228	0.693	*DI*	10
	Lahartara	GF	0.852	*DI*	10	-0.191	2.228	0.918	*DI*	10	-0.106	2.228	0.789	*DI*	10
	Mahmoorganj	GF	0.886	*DI*	10	-0.147	2.228	0.961	*DI*	10	-0.050	2.228	0.904	*DI*	10
		FF	0.955	*DI*	10	-0.057	2.228	0.914	*DI*	10	-0.110	2.228	0.971	*DI*	10
	Manduadih Police Station	GF	0.926	*DI*	10	0.095	2.228	0.832	*DI*	10	-0.218	2.228	0.988	*DI*	10
		FF	0.837	*DI*	10	-0.212	2.228	0.984	*DI*	10	0.020	2.228	0.855	*DI*	10
		SF	0.859	*DI*	10	-0.183	2.228	0.946	*DI*	10	-0.069	2.228	0.998	*DI*	10
15. Lahartara-Manduadih	Cantt Railway Station	GF	0.964	*DI*	10	0.046	2.228	0.861	*DI*	10	-0.180	2.228	0.863	*DI*	10
		FF	0.949	*DI*	10	0.066	2.228	0.819	*DI*	10	0.236	2.228	0.854	*DI*	10
	Manduadih	GF	0.926	*DI*	10	0.095	2.228	0.939	*DI*	10	-0.078	2.228	0.956	*DI*	10
		FF	0.980	*DI*	10	0.026	2.228	0.887	*DI*	10	-0.146	2.228	0.941	*DI*	10
	Mohan Sarai	GF	0.744	*DI*	10	-0.336	2.228	0.797	*DI*	10	0.264	2.228	0.889	*DI*	10
		FF	0.746	*DI*	10	0.333	2.228	0.748	*DI*	10	0.330	2.228	0.782	*DI*	10
16. Radisson - Varuna Bridge	PWD Office	GF	0.968	*DI*	10	-0.042	2.228	0.845	*DI*	10	-0.201	2.228	0.797	*DI*	10
	The Mall Road	GF	0.885	*DI*	10	0.149	2.228	0.952	*DI*	10	0.061	2.228	0.872	*DI*	10
		FF	0.928	*DI*	10	-0.092	2.228	0.878	*DI*	10	-0.158	2.228	0.957	*DI*	10
		SF	0.983	*DI*	10	-	2.228	0.904	*DI*	10	0.124	2.228	0.921	*DI*	10

17. Bhojubir	Bhojubir	GF	0.846	*DI*	10	-0.200	2.228	0.850	*DI*	10	-0.194	2.228	0.894	*DI*	10
		FF	0.855	*DI*	10	0.188	2.228	0.884	*DI*	10	0.149	2.228	0.862	*DI*	10
		SF	0.964	*DI*	10	-0.046	2.228	0.919	*DI*	10	-0.104	2.228	0.931	*DI*	10
	Circuit House	GF	0.789	*DI*	10	0.275	2.228	0.751	*DI*	10	-0.326	2.228	0.953	*DI*	10
		FF	0.959	*DI*	10	0.053	2.228	0.980	*DI*	10	0.025	2.228	0.922	*DI*	10
	Orderly Bazar	GF	0.958	*DI*	10	-0.053	2.228	0.997	*DI*	10	0.004	2.228	0.978	*DI*	10
		FF	0.955	*DI*	10	-0.058	2.228	0.860	*DI*	10	-0.181	2.228	0.927	*DI*	10
18. Pandeypur	Hakul Ganj	GF	0.975	*DI*	10	0.032	2.228	0.976	*DI*	10	-0.031	2.228	0.900	*DI*	10
		FF	0.972	*DI*	10	0.036	2.228	0.935	*DI*	10	-0.083	2.228	0.937	*DI*	10
		SF	0.984	*DI*	10	-0.021	2.228	0.840	*DI*	10	-0.207	2.228	0.967	*DI*	10
	Khajuri	GF	0.949	*DI*	10	-0.066	2.228	0.989	*DI*	10	-0.014	2.228	0.939	*DI*	10
		FF	0.912	*DI*	10	0.113	2.228	0.912	*DI*	10	0.113	2.228	0.902	*DI*	10
		SF	0.910	*DI*	10	-0.116	2.228	0.872	*DI*	10	-0.165	2.228	0.989	*DI*	10
	Lalpur	GF	0.861	*DI*	10	-0.179	2.228	0.927	*DI*	10	0.094	2.228	0.817	*DI*	10
	Paharia	GF	0.727	*DI*	10	0.359	2.228	0.971	*DI*	10	0.037	2.228	0.932	*DI*	10
	Police Line	GF	0.777	*DI*	10	-0.291	2.228	0.710	*DI*	10	0.383	2.228	0.935	*DI*	10
19. Police Line	Kutchhary	GF	0.828	*DI*	10	0.222	2.228	0.762	*DI*	10	-0.31	2.228	0.862	*DI*	10
		FF	0.907	*DI*	10	-0.12	2.228	0.887	*DI*	10	0.146	2.228	0.779	*DI*	10
		SF	0.948	*DI*	10	0.067	2.228	0.961	*DI*	10	0.050	2.228	0.894	*DI*	10
	Maqbool Alam Road	GF	0.764	*DI*	10	0.308	2.228	0.919	*DI*	10	-0.104	2.228	0.866	*DI*	10
		FF	0.674	*DI*	10	-0.43	2.228	0.985	*DI*	10	-0.02	2.228	0.947	*DI*	10
	Orderly Bazar	GF	0.985	*DI*	10	0.020	2.228	0.813	*DI*	10	-0.24	2.228	0.922	*DI*	10
	Pandeypur	GF	0.837	*DI*	10	0.212	2.228	0.916	*DI*	10	-0.10	2.228	0.968	*DI*	10
	sum		101.632					101.100					103.287		

Table 6.3(a). Calibration/validation of model developed for floor-wise leg (chi-square test)

Equation Number			**6.1**			**6.2**			**6.3**			**6.4**		
Output of $\chi 2$ test			Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value
Intersection	Leg (Towards)	Floor												
1. BHU Gate	Naria	GF	0.113	3	7.81	0.137	3	7.81	0.195	3	7.81	0.259	3	7.81
		FF	0.083	3	7.81	0.046	3	7.81	0.191	3	7.81	0.044	3	7.81
	Ravidas Gate	GF	0.004	3	7.81	0.001	3	7.81	0.002	3	7.81	0.010	3	7.81
	Trauma Centre	BW	4.054	3	7.81	0.075	3	7.81	1.195	3	7.81	0.166	3	7.81
2. Ravidas Gate	Assi	GF	0.065	3	7.81	0.005	3	7.81	0.033	3	7.81	0.010	3	7.81
		FF	0.013	3	7.81	0.001	3	7.81	0.007	3	7.81	0.002	3	7.81
	BHU	GF	0.010	3	7.81	0.005	3	7.81	0.017	3	7.81	0.004	3	7.81
		FF	0.003	3	7.81	0.004	3	7.81	0.010	3	7.81	0.003	3	7.81
	Durgakund	GF	0.035	3	7.81	0.007	3	7.81	0.016	3	7.81	0.007	3	7.81
	Lanka Thana	GF	0.005	3	7.81	0.016	3	7.81	0.011	3	7.81	0.058	3	7.81
		FF	0.007	3	7.81	0.016	3	7.81	0.020	3	7.81	0.026	3	7.81
		SF	0.007	3	7.81	0.020	3	7.81	0.010	3	7.81	0.080	3	7.81
3. Lanka-Sankatmochan	Durgakund	GF	0.006	3	7.81	0.011	3	7.81	0.014	3	7.81	0.001	3	7.81
		FF	0.091	3	7.81	0.009	3	7.81	0.006	3	7.81	0.007	3	7.81
		SF	0.009	3	7.81	0.010	3	7.81	0.002	3	7.81	0.003	3	7.81
	Ravidas Gate	BW	0.002	3	7.81	0.001	3	7.81	0.009	3	7.81	0.147	3	7.81

	Sankat Mochan Temple	GF	0.423	3	7.81	0.000	3	7.81	0.000	3	7.81	0.003	3	7.81
		FF	0.000	3	7.81	0.000	3	7.81	0.001	3	7.81	0.001	3	7.81
		SF	0.000	3	7.81	0.000	3	7.81	0.006	3	7.81	0.002	3	7.81
4. Durgakund Temple	Bhelupur	GF	0.001	3	7.81	0.001	3	7.81	0.002	3	7.81	0.002	3	7.81
		FF	0.007	3	7.81	0.011	3	7.81	0.019	3	7.81	0.008	3	7.81
	Ravidas Gate	GF	0.002	3	7.81	0.006	3	7.81	0.002	3	7.81	0.001	3	7.81
5. Bhelupur	Assi	GF	0.000	3	7.81	0.001	3	7.81	0.000	3	7.81	0.001	3	7.81
		FF	0.003	3	7.81	0.001	3	7.81	0.000	3	7.81	0.000	3	7.81
		SF	0.001	3	7.81	0.002	3	7.81	0.002	3	7.81	0.002	3	7.81
	Durgakund	GF	0.000	3	7.81	0.004	3	7.81	0.000	3	7.81	0.001	3	7.81
	Kamachcha	GF	0.021	3	7.81	0.004	3	7.81	0.010	3	7.81	0.001	3	7.81
		FF	0.035	3	7.81	0.005	3	7.81	0.001	3	7.81	0.003	3	7.81
		SF	0.007	3	7.81	0.001	3	7.81	0.003	3	7.81	0.001	3	7.81
	Ramapura	GF	0.001	3	7.81	0.000	3	7.81	0.000	3	7.81	0.000	3	7.81
		FF	0.001	3	7.81	0.000	3	7.81	0.003	3	7.81	0.000	3	7.81
6. Rathyatra	Kamachcha	GF	0.000	3	7.81	0.001	3	7.81	0.000	3	7.81	0.000	3	7.81
		FF	0.000	3	7.81	0.001	3	7.81	0.000	3	7.81	0.001	3	7.81
		SF	0.000	3	7.81	0.001	3	7.81	0.000	3	7.81	0.001	3	7.81
	Mahmoorganj	GF	0.014	3	7.81	0.003	3	7.81	0.007	3	7.81	0.006	3	7.81
		FF	0.004	3	7.81	0.002	3	7.81	0.004	3	7.81	0.010	3	7.81
		SF	0.010	3	7.81	0.004	3	7.81	0.004	3	7.81	0.003	3	7.81
	Sigra	GF	0.003	3	7.81	0.002	3	7.81	0.006	3	7.81	0.000	3	7.81

7. Sigra	Englishia Line	BW	0.015	3	7.81	0.017	3	7.81	0.015	3	7.81	0.051	3	7.81
	Rathyatra	GF	0.007	3	7.81	0.002	3	7.81	0.003	3	7.81	0.001	3	7.81
		FF	0.002	3	7.81	0.003	3	7.81	0.001	3	7.81	0.002	3	7.81
	Teliyabag	GF	0.005	3	7.81	0.010	3	7.81	0.038	3	7.81	0.008	3	7.81
		FF	0.000	3	7.81	0.004	3	7.81	0.000	3	7.81	0.002	3	7.81
		SF	0.000	3	7.81	0.003	3	7.81	0.000	3	7.81	0.004	3	7.81
8. Englishia line	Andharapul	GF	0.007	3	7.81	0.002	3	7.81	0.008	3	7.81	0.005	3	7.81
	Lahartara	BW	0.136	3	7.81	0.064	3	7.81	0.280	3	7.81	0.109	3	7.81
	Sigra	BW	0.085	3	7.81	0.074	3	7.81	0.103	3	7.81	0.130	3	7.81
9. Andharapul	Chaukaghat	BW	0.009	3	7.81	0.000	3	7.81	0.001	3	7.81	0.001	3	7.81
	Englishia Line	BW	0.000	3	7.81	0.001	3	7.81	0.003	3	7.81	0.001	3	7.81
	Nadesar	BW	0.002	3	7.81	0.001	3	7.81	0.001	3	7.81	0.009	3	7.81
	Teliyabag	BW	0.004	3	7.81	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81
10. Chaukaghat	Andharapul	BW	0.004	3	7.81	0.004	3	7.81	0.003	3	7.81	0.000	3	7.81
	City Railway Station	BW	0.004	3	7.81	0.003	3	7.81	0.000	3	7.81	0.000	3	7.81
	Maqbool Alam Road	GF	0.014	3	7.81	0.003	3	7.81	0.020	3	7.81	0.003	3	7.81
		FF	0.006	3	7.81	0.001	3	7.81	0.035	3	7.81	0.001	3	7.81
	Nadesar	GF	0.004	3	7.81	0.002	3	7.81	0.001	3	7.81	0.001	3	7.81
		FF	0.003	3	7.81	0.005	3	7.81	0.000	3	7.81	0.003	3	7.81
	Teliyabag	GF	0.521	3	7.81	0.019	3	7.81	0.004	3	7.81	0.002	3	7.81
		FF	0.096	3	7.81	0.010	3	7.81	0.004	3	7.81	0.001	3	7.81

11. Godowlia	Girjaghar	GF	0.001	3	7.81	0.001	3	7.81	0.002	3	7.81	0.000	3	7.81
		FF	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81	0.000	3	7.81
	Lanka	GF	0.032	3	7.81	0.000	3	7.81	0.014	3	7.81	0.001	3	7.81
		FF	0.039	3	7.81	0.002	3	7.81	0.003	3	7.81	0.001	3	7.81
		SF	0.342	3	7.81	0.639	3	7.81	0.098	3	7.81	0.690	3	7.81
12. Girjaghar	Godowlia	GF	0.004	3	7.81	0.004	3	7.81	0.002	3	7.81	0.001	3	7.81
		FF	0.002	3	7.81	0.001	3	7.81	0.003	3	7.81	0.001	3	7.81
	Lahurabir	GF	0.006	3	7.81	0.001	3	7.81	0.005	3	7.81	0.002	3	7.81
		FF	0.003	3	7.81	0.003	3	7.81	0.002	3	7.81	0.002	3	7.81
		SF	0.003	3	7.81	0.001	3	7.81	0.006	3	7.81	0.001	3	7.81
	Luxa	GF	0.001	3	7.81	0.000	3	7.81	0.000	3	7.81	0.002	3	7.81
		FF	0.001	3	7.81	0.000	3	7.81	0.006	3	7.81	0.009	3	7.81
		SF	0.000	3	7.81	0.000	3	7.81	0.001	3	7.81	0.000	3	7.81
	Ramapura	GF	0.009	3	7.81	0.016	3	7.81	0.017	3	7.81	0.013	3	7.81
		FF	0.012	3	7.81	0.009	3	7.81	0.008	3	7.81	0.016	3	7.81
13. Bhikharipur	Chitaipur	GF	0.003	3	7.81	0.001	3	7.81	0.003	3	7.81	0.002	3	7.81
	DLW	BW	0.023	3	7.81	0.029	3	7.81	0.005	3	7.81	0.001	3	7.81
	Sundarpur	GF	0.006	3	7.81	0.000	3	7.81	0.008	3	7.81	0.002	3	7.81
		FF	0.007	3	7.81	0.001	3	7.81	0.010	3	7.81	0.137	3	7.81
		SF	0.004	3	7.81	0.003	3	7.81	0.002	3	7.81	0.001	3	7.81
14. Manduadih	DLW	GF	0.001	3	7.81	0.001	3	7.81	0.004	3	7.81	0.000	3	7.81
	Lahartara	GF	0.035	3	7.81	0.033	3	7.81	0.064	3	7.81	0.015	3	7.81
	Mahmoorganj	GF	0.008	3	7.81	0.013	3	7.81	0.028	3	7.81	0.000	3	7.81
		FF	0.010	3	7.81	0.010	3	7.81	0.025	3	7.81	0.001	3	7.81

	Manduadih Police Station	GF	0.001	3	7.81	0.000	3	7.81	0.000	3	7.81	0.001	3	7.81
		FF	0.002	3	7.81	0.002	3	7.81	0.000	3	7.81	0.002	3	7.81
		SF	0.002	3	7.81	0.000	3	7.81	0.000	3	7.81	0.000	3	7.81
15. Lahartara-Manduadih	Cantt Railway Station	GF	0.003	3	7.81	0.012	3	7.81	0.004	3	7.81	0.002	3	7.81
		FF	0.002	3	7.81	0.002	3	7.81	0.001	3	7.81	0.000	3	7.81
	Manduadih	GF	0.002	3	7.81	0.001	3	7.81	0.008	3	7.81	0.006	3	7.81
		FF	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81	0.002	3	7.81
	Mohan Sarai	GF	0.004	3	7.81	0.002	3	7.81	0.002	3	7.81	0.004	3	7.81
		FF	0.032	3	7.81	0.003	3	7.81	0.003	3	7.81	0.001	3	7.81
16. Radisson - Varuna Bridge	PWD Office	GF	0.001	3	7.81	0.002	3	7.81	0.002	3	7.81	0.000	3	7.81
	The Mall Road	GF	0.001	3	7.81	0.000	3	7.81	0.000	3	7.81	0.001	3	7.81
		FF	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81
		SF	0.000	3	7.81	0.001	3	7.81	0.001	3	7.81	0.009	3	7.81
	TV Tower	BW	0.000	3	7.81	0.001	3	7.81	0.000	3	7.81	0.007	3	7.81
17. Bhojubir	Bhojubir	GF	0.004	3	7.81	0.003	3	7.81	0.017	3	7.81	0.002	3	7.81
		FF	0.000	3	7.81	0.001	3	7.81	0.002	3	7.81	0.003	3	7.81
		SF	0.003	3	7.81	0.001	3	7.81	0.000	3	7.81	0.001	3	7.81
	Circuit House	GF	0.011	3	7.81	0.000	3	7.81	0.003	3	7.81	0.001	3	7.81
		FF	0.008	3	7.81	0.003	3	7.81	0.001	3	7.81	0.002	3	7.81
	Orderly Bazar	GF	0.000	3	7.81	0.002	3	7.81	0.001	3	7.81	0.002	3	7.81
		FF	0.000	3	7.81	0.001	3	7.81	0.003	3	7.81	0.006	3	7.81

18. Pandeypur	Hakul Ganj	GF	0.000	3	7.81	0.001	3	7.81	0.000	3	7.81	0.000	3	7.81
		FF	0.000	3	7.81	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81
		SF	0.000	3	7.81	0.002	3	7.81	0.001	3	7.81	0.000	3	7.81
	Khajuri	GF	0.003	3	7.81	0.001	3	7.81	0.002	3	7.81	0.002	3	7.81
		FF	0.008	3	7.81	0.005	3	7.81	0.000	3	7.81	0.001	3	7.81
		SF	0.002	3	7.81	0.000	3	7.81	0.001	3	7.81	0.001	3	7.81
	Lalpur	GF	0.003	3	7.81	0.001	3	7.81	0.001	3	7.81	0.000	3	7.81
	Paharia	GF	0.897	3	7.81	0.719	3	7.81	0.836	3	7.81	0.627	3	7.81
	Police Line	GF	0.003	3	7.81	0.000	3	7.81	0.006	3	7.81	0.000	3	7.81
19. Police Line	Kutchhary	GF	0.087	3	7.81	0.084	3	7.81	0.001	3	7.81	0.026	3	7.81
		FF	0.017	3	7.81	0.002	3	7.81	0.011	3	7.81	0.025	3	7.81
		SF	0.272	3	7.81	0.012	3	7.81	0.003	3	7.81	0.025	3	7.81
	Maqbool Alam Road	GF	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81
		FF	0.005	3	7.81	0.000	3	7.81	0.003	3	7.81	0.003	3	7.81
	Orderly Bazar	GF	0.008	3	7.81	0.003	3	7.81	0.112	3	7.81	0.000	3	7.81
	Pandeypur	GF	0.005	3	7.81	0.043	3	7.81	0.001	3	7.81	0.003	3	7.81
	sum =		7.908			2.325			3.675			2.880		

Table 6.3(b). Calibration/validation of model developed for floor-wise leg (t-test)

Equation Number			6.1					6.2					6.3			
Output of t-test			P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t-Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-St
Intersection	Leg (Towards)	Floor														
1. BHU Gate	Naria	GF	0.485	*DI*	2	0.850	4.303	0.440	*DI*	2	0.955	4.303	0.358	*DI*	2	1.18
		FF	0.593	*DI*	2	0.631	4.303	0.674	*DI*	2	-0.487	4.303	0.378	*DI*	2	1.12
	Ravidas Gate	GF	0.886	*DI*	2	0.162	4.303	0.981	*DI*	2	0.027	4.303	0.803	*DI*	2	0.28
	Trauma Centre	BW	0.043	*DS*	2	-4.670	4.303	0.461	*DI*	2	-0.906	4.303	0.008	*DS*	2	-11.3
2. Ravidas Gate	Assi	GF	0.562	*DI*	2	0.689	4.303	0.877	*DI*	2	-0.176	4.303	0.699	*DI*	2	0.44
		FF	0.817	*DI*	2	0.264	4.303	0.985	*DI*	2	0.021	4.303	0.849	*DI*	2	0.21
	BHU	GF	0.786	*DI*	2	0.310	4.303	0.947	*DI*	2	0.768	4.303	0.694	*DI*	2	-0.0
		FF	0.867	*DI*	2	-0.190	4.303	0.921	*DI*	2	-0.111	4.303	0.765	*DI*	2	-0.3
	Durgakund	GF	0.516	*DI*	2	-0.783	4.303	0.763	*DI*	2	-0.344	4.303	0.632	*DI*	2	-0.5
	Lanka Thana	GF	0.892	*DI*	2	-0.154	4.303	0.822	*DI*	2	-0.256	4.303	0.974	*DI*	2	0.03
		FF	0.715	*DI*	2	-0.420	4.303	0.759	*DI*	2	-0.351	4.303	0.992	*DI*	2	-0.4
		SF	0.845	*DI*	2	-0.222	4.303	0.734	*DI*	2	-0.390	4.303	0.955	*DI*	2	0.13
3. Lanka-Sankatmochan	Durgakund	GF	0.895	*DI*	2	-0.149	4.303	0.847	*DI*	2	-0.220	4.303	0.814	*DI*	2	-0.2
		FF	0.564	*DI*	2	0.685	4.303	0.866	*DI*	2	-0.596	4.303	0.898	*DI*	2	-0.5
		SF	0.884	*DI*	2	-0.165	4.303	0.863	*DI*	2	-0.196	4.303	0.954	*DI*	2	-0.0
	Ravidas Gate	BW	0.951	*DI*	2	-0.069	4.303	0.712	*DI*	2	-0.425	4.303	0.496	*DI*	2	-0.8
	Sankat Mochan Temple	GF	0.068	*DI*	2	3.631	4.303	0.967	*DI*	2	0.047	4.303	0.956	*DI*	2	0.06
		FF	0.882	*DI*	2	0.167	4.303	0.774	*DI*	2	0.328	4.303	0.613	*DI*	2	-0.5
		SF	0.841	*DI*	2	0.228	4.303	0.969	*DI*	2	0.044	4.303	0.325	*DI*	2	-1.2

5. Bhelupur	Assi	GF	0.850	*DI*	2	0.215	4.303	0.790	*DI*	2	-0.303	4.303	0.884	*DI*	2	0.16
		FF	0.483	*DI*	2	0.853	4.303	0.982	*DI*	2	-0.026	4.303	0.992	*DI*	2	-0.0
		SF	0.716	*DI*	2	0.419	4.303	0.717	*DI*	2	-0.417	4.303	0.625	*DI*	2	0.57
	Durgakund	GF	0.957	*DI*	2	-0.062	4.303	0.665	*DI*	2	-0.502	4.303	0.885	*DI*	2	-0.1
	Kamachcha	GF	0.251	*DI*	2	-1.598	4.303	0.375	*DI*	2	-1.132	4.303	0.273	*DI*	2	-1.4
		FF	0.248	*DI*	2	-1.612	4.303	0.356	*DI*	2	-1.189	4.303	0.695	*DI*	2	-0.4
		SF	0.407	*DI*	2	-1.042	4.303	0.477	*DI*	2	0.869	4.303	0.541	*DI*	2	-0.7
	Ramapura	GF	0.836	*DI*	2	0.234	4.303	0.929	*DI*	2	-0.101	4.303	0.953	*DI*	2	-0.0
		FF	0.828	*DI*	2	0.247	4.303	0.996	*DI*	2	0.006	4.303	0.747	*DI*	2	0.37
6. Rathyatra	Kamachcha	GF	0.956	*DI*	2	-0.062	4.303	0.799	*DI*	2	0.291	4.303	0.878	*DI*	2	0.17
		FF	0.989	*DI*	2	0.016	4.303	0.644	*DI*	2	0.539	4.303	0.915	*DI*	2	0.12
		SF	0.960	*DI*	2	-0.056	4.303	0.786	*DI*	2	-0.310	4.303	0.997	*DI*	2	-0.0
	Mahmoorganj	GF	0.539	*DI*	2	0.735	4.303	0.949	*DI*	2	-0.072	4.303	0.716	*DI*	2	0.41
		FF	0.733	*DI*	2	0.392	4.303	0.976	*DI*	2	-0.034	4.303	0.850	*DI*	2	0.21
		SF	0.600	*DI*	2	0.617	4.303	0.944	*DI*	2	0.079	4.303	0.797	*DI*	2	0.29
	Sigra	GF	0.832	*DI*	2	0.241	4.303	0.850	*DI*	2	-0.215	4.303	0.720	*DI*	2	0.41
7. Sigra	Englishia Line	BW	0.674	*DI*	2	0.487	4.303	0.403	*DI*	2	-1.052	4.303	0.437	*DI*	2	0.96
	Rathyatra	GF	0.613	*DI*	2	0.593	4.303	0.779	*DI*	2	0.320	4.303	0.889	*DI*	2	0.15
		FF	0.722	*DI*	2	0.409	4.303	0.744	*DI*	2	0.374	4.303	0.910	*DI*	2	0.12
	Teliyabag	GF	0.546	*DI*	2	0.721	4.303	0.843	*DI*	2	-0.225	4.303	0.319	*DI*	2	1.31
		FF	0.818	*DI*	2	-0.262	4.303	0.392	*DI*	2	1.084	4.303	0.922	*DI*	2	0.11
		SF	0.929	*DI*	2	0.100	4.303	0.819	*DI*	2	0.261	4.303	0.706	*DI*	2	-0.4
8. Englishia line	Andharapul	GF	0.519	*DI*	2	0.777	4.303	0.805	*DI*	2	0.282	4.303	0.476	*DI*	2	0.86
	Lahartara	BW	0.259	*DI*	2	1.561	4.303	0.460	*DI*	2	0.908	4.303	0.117	*DI*	2	2.65

10. Chaukaghat	Andharapul	BW	0.055	*DI*	2	-4.090	4.303	0.171	*DI*	2	-2.098	4.303	0.663	*DI*	2	0.50
	City Railway Station	BW	0.726	*DI*	2	0.402	4.303	0.772	*DI*	2	0.332	4.303	0.985	*DI*	2	-0.0
	Maqbool Alam Road	GF	0.270	*DI*	2	-1.509	4.303	0.612	*DI*	2	-0.596	4.303	0.123	*DI*	2	2.58
		FF	0.464	*DI*	2	0.898	4.303	0.702	*DI*	2	0.441	4.303	0.088	*DI*	2	3.15
	Nadesar	GF	0.542	*DI*	2	-0.729	4.303	0.764	*DI*	2	-0.343	4.303	0.734	*DI*	2	-0.3
		FF	0.597	*DI*	2	-0.622	4.303	0.473	*DI*	2	-0.878	4.303	0.925	*DI*	2	0.10
	Teliyabag	GF	0.330	*DI*	2	1.275	4.303	0.638	*DI*	2	0.549	4.303	0.837	*DI*	2	0.23
		FF	0.792	*DI*	2	-0.300	4.303	0.730	*DI*	2	0.397	4.303	0.890	*DI*	2	0.15
11. Godowlia	Girjaghar	GF	0.481	*DI*	2	-0.859	4.303	0.375	*DI*	2	-1.132	4.303	0.476	*DI*	2	-0.8
		FF	0.529	*DI*	2	-0.755	4.303	0.479	*DI*	2	-0.864	4.303	0.698	*DI*	2	-0.4
	Lanka	GF	0.618	*DI*	2	-0.585	4.303	0.951	*DI*	2	0.069	4.303	0.543	*DI*	2	-0.7
		FF	0.610	*DI*	2	-0.598	4.303	0.807	*DI*	2	-0.278	4.303	0.791	*DI*	2	0.30
		SF	0.059	*DI*	2	3.945	4.303	0.015	*DS*	2	-7.998	4.303	0.253	*DI*	2	1.58
12. Girjaghar	Godowlia	GF	0.730	*DI*	2	-0.397	4.303	0.730	*DI*	2	-0.396	4.303	0.826	*DI*	2	-0.2
		FF	0.793	*DI*	2	-0.299	4.303	0.878	*DI*	2	0.174	4.303	0.751	*DI*	2	-0.3
	Lahurabir	GF	0.697	*DI*	2	0.450	4.303	0.853	*DI*	2	0.211	4.303	0.777	*DI*	2	0.32
		FF	0.840	*DI*	2	0.229	4.303	0.760	*DI*	2	0.349	4.303	0.940	*DI*	2	-0.0
		SF	0.970	*DI*	2	0.043	4.303	0.898	*DI*	2	-0.145	4.303	0.735	*DI*	2	0.38
	Luxa	GF	0.829	*DI*	2	0.246	4.303	0.874	*DI*	2	-0.179	4.303	0.979	*DI*	2	0.03
		FF	0.846	*DI*	2	0.220	4.303	0.960	*DI*	2	-0.057	4.303	0.747	*DI*	2	-0.3
		SF	0.915	*DI*	2	0.121	4.303	0.977	*DI*	2	-0.033	4.303	0.828	*DI*	2	-0.2

	Sundarpur	GF	0.573	*DI*	2	-0.669	4.303	0.929	*DI*	2	0.101	4.303	0.504	*DI*	2	-0.8
		FF	0.560	*DI*	2	-0.694	4.303	0.813	*DI*	2	0.269	4.303	0.479	*DI*	2	-0.8
		SF	0.601	*DI*	2	-0.614	4.303	0.691	*DI*	2	-0.459	4.303	0.747	*DI*	2	-0.3
14. Manduadih	DLW	GF	0.903	*DI*	2	-0.137	4.303	0.958	*DI*	2	0.059	4.303	0.770	*DI*	2	-0.3
	Lahartara	GF	0.942	*DI*	2	0.082	4.303	0.945	*DI*	2	0.077	4.303	0.989	*DI*	2	0.01
	Mahmoorganj	GF	0.650	*DI*	2	0.529	4.303	0.307	*DI*	2	1.359	4.303	0.947	*DI*	2	0.07
		FF	0.568	*DI*	2	0.678	4.303	0.369	*DI*	2	1.149	4.303	0.980	*DI*	2	-0.0
	Manduadih Police Station	GF	0.934	*DI*	2	0.093	4.303	0.977	*DI*	2	-0.032	4.303	0.995	*DI*	2	-0.0
		FF	0.943	*DI*	2	0.081	4.303	0.918	*DI*	2	0.117	4.303	0.965	*DI*	2	-0.0
		SF	0.928	*DI*	2	-0.102	4.303	0.979	*DI*	2	0.030	4.303	0.972	*DI*	2	0.03
15. Lahartara-Manduadih	Cantt Railway Station	GF	0.747	*DI*	2	-0.369	4.303	0.597	*DI*	2	-0.623	4.303	0.792	*DI*	2	0.30
		FF	0.804	*DI*	2	-0.283	4.303	0.869	*DI*	2	-0.187	4.303	0.901	*DI*	2	0.14
	Manduadih	GF	0.917	*DI*	2	0.118	4.303	0.999	*DI*	2	-0.001	4.303	0.811	*DI*	2	0.27
		FF	0.942	*DI*	2	0.082	4.303	0.996	*DI*	2	-0.006	4.303	0.989	*DI*	2	0.01
	Mohan Sarai	GF	0.949	*DI*	2	-0.073	4.303	0.841	*DI*	2	0.228	4.303	0.958	*DI*	2	-0.0
		FF	0.736	*DI*	2	0.387	4.303	0.814	*DI*	2	0.267	4.303	0.759	*DI*	2	0.35
16. Radisson - Varuna Bridge	PWD Office	GF	0.976	*DI*	2	0.034	4.303	0.959	*DI*	2	-0.059	4.303	0.868	*DI*	2	0.18
	The Mall Road	GF	0.920	*DI*	2	0.114	4.303	0.956	*DI*	2	0.062	4.303	0.971	*DI*	2	-0.0
		FF	0.906	*DI*	2	-0.134	4.303	0.889	*DI*	2	-0.158	4.303	0.940	*DI*	2	0.08
		SF	0.989	*DI*	2	-0.015	4.303	0.917	*DI*	2	0.117	4.303	0.889	*DI*	2	0.15
	TV Tower	BW	0.897	*DI*	2	0.147	4.303	0.814	*DI*	2	0.268	4.303	0.983	*DI*	2	-0.0
17. Bhojubir	Bhojubir	GF	0.874	*DI*	2	-0.180	4.303	0.895	*DI*	2	-0.149	4.303	0.732	*DI*	2	0.39
		FF	0.997	*DI*	2	-0.005	4.303	0.947	*DI*	2	0.075	4.303	0.919	*DI*	2	0.11
		SF	0.882	*DI*	2	-0.168	4.303	0.923	*DI*	2	-0.110	4.303	0.965	*DI*	2	-0.0
	Circuit House	GF	0.742	*DI*	2	0.377	4.303	0.982	*DI*	2	-0.025	4.303	0.907	*DI*	2	0.13

18. Pandeypur	Hakul Ganj	GF	0.995	*DI*	2	-0.007	4.303	0.970	*DI*	2	-0.043	4.303	0.927	*DI*	2	-0.1
		FF	1.000	*DI*	2	0.000	4.303	0.953	*DI*	2	-0.066	4.303	0.893	*DI*	2	-0.1
		SF	0.928	*DI*	2	-0.102	4.303	0.862	*DI*	2	-0.197	4.303	0.880	*DI*	2	-0.1
	Khajuri	GF	0.923	*DI*	2	0.109	4.303	0.929	*DI*	2	0.100	4.303	0.922	*DI*	2	0.11
		FF	0.824	*DI*	2	0.252	4.303	0.854	*DI*	2	0.208	4.303	0.996	*DI*	2	0.00
		SF	0.955	*DI*	2	0.064	4.303	0.997	*DI*	2	-0.004	4.303	0.953	*DI*	2	0.06
	Lalpur	GF	0.588	*DI*	2	-0.639	4.303	0.724	*DI*	2	0.406	4.303	0.825	*DI*	2	0.25
	Paharia	GF	0.308	*DI*	2	1.357	4.303	0.327	*DI*	2	1.286	4.303	0.487	*DI*	2	0.84
	Police Line	GF	0.115	*DI*	2	-2.683	4.303	0.883	*DI*	2	-0.166	4.303	0.506	*DI*	2	0.80
19. Police Line	Kutchhary	GF	0.107	*DI*	2	-2.808	4.303	0.086	*DI*	2	-3.183	4.303	0.791	*DI*	2	-0.3
		FF	0.319	*DI*	2	-1.315	4.303	0.356	*DI*	2	-1.190	4.303	0.152	*DI*	2	-2.2
		SF	0.035	*DS*	2	-5.182	4.303	0.060	*DI*	2	-1.939	4.303	0.367	*DI*	2	-0.7
	Maqbool Alam Road	GF	0.816	*DI*	2	0.265	4.303	0.796	*DI*	2	-0.340	4.303	0.946	*DI*	2	-0.1
		FF	0.614	*DI*	2	-0.592	4.303	0.988	*DI*	2	0.017	4.303	0.706	*DI*	2	-0.4
	Orderly Bazar	GF	0.895	*DI*	2	-0.150	4.303	0.808	*DI*	2	-0.276	4.303	0.853	*DI*	2	-0.2
	Pandeypur	GF	0.776	*DI*	2	0.325	4.303	0.578	*DI*	2	-0.659	4.303	0.962	*DI*	2	0.05
	sum =		84.205					90.781					90.203			

Table 6.4. Regression output for the floor-wise intersection model

Equation Number		6.1							6.2							6.3				
Output parameters of regression analysis		Inter-cept	Coeff. of NC	Coeff. of PCU/d	Coeff. of $p1$	Coeff. of $\%AO$	R^2	SE	Inter-cept	Coeff. of NC	Coeff. of Qw/d	Coeff. of $p2$	Coeff. of $\%AO$	R^2	SE	Inter-cept	Coeff. of NR	Coeff. of PCU/d	Coeff. of $p1$	C
Intersection	Leg & Floor	(a)	(b)	(c)	(d)	(e)			(a)	(b)	(c)	(d)	(e)			(a)	(b)	(c)	(d)	
1. BHU Gate	All Legs, GF	68.93	-0.53	-1.57	-0.41	0.48	0.476	4.016	74.72	0.37	1.43	-0.44	0.16	0.619	3.425	69.48	-0.54	-1.59	-0.39	
	FF	53.67	0.56	1.49	0.25	0.20	1.000	0.022	44.61	0.61	0.39	0.24	0.36	1.000	0.053	-23.51	-0.70	12.92	5.01	
2. Ravidas Gate	All Legs, GF	74.50	-1.31	-0.37	0.20	0.31	0.710	2.266	70.36	-1.09	-0.48	0.09	0.37	0.667	2.429	68.83	-0.48	-0.26	0.13	
	FF	81.09	-2.31	1.27	0.13	0.17	0.764	2.446	83.10	-1.47	4.00	-0.12	-0.16	0.827	2.097	75.14	-1.36	1.43	0.08	
	SF	66.19	-0.28	1.63	0.28	0.10	0.995	0.294	66.74	-0.45	-1.55	0.16	0.34	0.999	0.092	66.48	-0.35	2.59	0.31	
3. Lanka-Sankatmochan	All Legs, GF	83.96	-0.35	-0.46	0.05	0.15	0.766	0.972	83.72	-0.37	-0.16	-0.06	0.18	0.751	1.003	83.70	-0.24	-0.12	-0.11	
	FF	82.73	-0.12	-0.78	-0.13	0.22	0.881	0.870	82.21	-0.11	-0.68	-0.05	0.22	0.906	0.772	84.65	-0.30	-0.73	-0.13	
	SF	66.19	-0.28	1.63	0.28	0.10	0.875	0.954	82.63	-0.21	-1.35	-0.05	0.26	0.917	0.778	83.77	-0.22	-1.46	-0.16	
4. Durgakund Temple	All Legs, GF	72.36	0.77	-0.27	-0.11	0.28	0.969	0.462	76.44	0.33	0.20	-0.04	0.13	0.982	0.352	73.82	0.47	-0.15	-0.07	
	FF	80.40	-0.14	0.02	0.02	0.10	0.997	0.103	81.52	-0.17	-0.35	0.05	0.13	1.000	0.029	78.80	-0.01	-0.19	-0.01	
5. Bhelupur	All Legs, GF	80.39	-1.63	-0.30	0.06	0.28	0.730	2.284	81.62	-1.90	-0.39	0.05	0.28	0.714	2.350	84.51	-1.69	-0.94	-0.07	
	FF	78.30	-1.61	-0.54	0.04	0.31	0.688	2.856	80.14	-2.00	-0.83	0.06	0.33	0.678	2.903	85.25	-1.83	-1.74	-0.15	
	SF	77.74	-2.39	-1.41	-0.16	0.46	0.870	2.592	80.35	-3.12	-1.51	0.01	0.45	0.857	2.715	84.02	-2.29	-3.18	-0.36	
6. Rathyatra	All Legs, GF	87.35	-1.01	1.69	0.08	-0.08	0.643	1.573	80.83	0.11	-2.18	0.10	0.32	0.344	2.134	88.62	-1.16	1.73	0.06	
	FF	83.36	-0.86	-0.29	0.01	0.14	0.866	1.117	85.59	-1.06	3.74	-0.09	-0.20	0.903	0.947	86.30	-0.93	-1.05	-0.01	
	SF	81.32	-0.84	-0.31	0.01	0.14	0.868	1.111	83.26	-1.01	4.64	-0.08	-0.16	0.899	0.968	83.54	-0.94	-1.69	-0.03	

8. Englishia line	All Legs, GF	63.74	0.96	-1.86	-0.04	0.40	0.738	3.077	63.75	0.79	-1.87	0.05	0.41	0.700	3.290	43.66	2.52	-2.10	-0.1
9. Andharapul	All Legs,BW	73.02	-0.03	0.09	0.20	0.15	0.627	3.378	71.21	0.10	0.05	0.11	0.18	0.612	3.446	94.57	-2.00	0.13	0.2
10. Chaukaghat	All Legs, GF	79.11	0.03	-4.05	-0.06	0.53	0.750	2.540	61.72	0.88	-3.80	0.05	0.77	0.903	1.583	81.08	-0.16	-4.07	-0.0
	FF	80.14	-0.59	-4.05	-0.21	0.52	0.925	1.072	68.27	0.21	-3.05	0.01	0.55	0.919	1.112	82.82	-0.75	-4.10	-0.2
11. Godowlia	All Legs, GF	70.93	0.25	0.73	0.00	0.09	0.947	0.497	75.9	0.0	11.0	0.0	-2.6	0.924	0.595	70.5	0.2	0.6	0.0
	FF	68.62	0.29	1.26	0.00	0.07	0.931	0.559	74.53	-0.03	-1.98	0.00	0.55	0.914	0.621	68.81	0.28	0.87	0.0
	SF	71.50	0.09	-0.17	0.08	0.23	1.000	0.017	71.08	0.05	0.67	0.06	0.14	0.999	0.109	70.12	0.22	0.41	0.0
12. Girjaghar	All Legs, GF	77.20	0.07	0.00	0.11	0.12	0.742	1.071	77.69	0.05	0.33	0.03	0.07	0.769	1.013	73.44	0.37	0.04	0.1
	FF	76.87	0.04	-0.42	0.10	0.15	0.754	0.985	76.44	0.03	0.42	0.02	0.08	0.739	1.015	73.46	0.31	-0.34	0.1
	SF	74.40	0.08	-0.18	0.00	0.15	0.990	0.175	74.23	0.08	0.04	0.00	0.14	0.989	0.185	73.78	0.10	0.07	0.0
13. Bhikharipur	All Legs, GF	78.70	0.22	-0.66	0.03	0.22	0.851	1.008	76.87	0.24	-0.46	0.06	0.20	0.925	0.714	70.67	0.92	-0.17	0.0
	FF	65.85	0.06	2.28	0.51	0.07	0.999	0.055	80.28	0.02	0.67	0.05	0.07	1.000	0.037	63.48	0.04	2.51	0.5
	SF	81.44	0.04	0.09	0.08	0.10	0.999	0.071	82.18	0.03	0.58	0.02	0.07	0.999	0.055	82.01	0.04	-0.08	0.0
14. Manduadih	All Legs, GF	89.63	-2.32	-0.49	-0.01	0.22	0.617	3.134	88.54	-2.36	0.06	-0.02	0.17	0.588	3.248	97.30	-2.72	-0.21	0.1
	FF	65.17	0.19	-0.67	-0.02	0.22	0.995	0.174	62.22	0.41	-0.71	0.00	0.24	0.991	0.220	65.58	0.12	-0.70	-0.0
	SF	66.28	-0.19	-1.53	0.01	0.22	1.000	0.083	62.80	0.09	0.91	0.00	0.11	1.000	0.013	65.92	-0.17	-1.12	0.0
15. Lahartara-Manduadih	All Legs, GF	69.24	-0.39	-1.90	0.24	0.51	0.916	1.904	59.22	0.48	-1.89	0.25	0.52	0.922	1.838	82.63	-1.02	-2.88	0.0
	FF	62.96	-2.05	0.04	0.81	0.39	0.846	2.777	50.07	-1.09	-0.67	0.56	0.48	0.824	2.965	49.11	0.17	-0.23	0.7
16. Radisson - Varuna Bridge	All Legs, GF	77.33	-0.04	-1.37	-0.07	0.36	0.863	1.018	80.16	-0.48	-0.59	0.03	0.23	0.779	1.291	82.56	-0.48	-1.44	-0.0
	FF	73.84	0.14	-0.27	0.01	0.17	1.000	0.082	72.98	0.24	0.38	0.01	0.09	1.000	0.061	72.23	0.21	0.18	0.0
	SF	72.29	0.12	-0.14	0.02	0.15	1.000	0.055	71.87	0.17	0.26	0.01	0.11	1.000	0.057	70.90	0.23	-0.10	0.0
17. Bhojubir	All Legs, GF	80.86	0.39	2.22	-0.21	-0.26	0.873	1.733	78.97	0.32	1.90	-0.13	-0.19	0.829	2.014	78.97	0.32	1.90	-0.1
	FF	80.56	0.43	3.03	-0.23	-0.30	0.841	1.903	82.26	-0.09	2.42	-0.14	-0.21	0.776	2.263	61.15	1.58	3.19	-0.0
	SF	57.00	0.62	1.78	0.22	0.09	0.997	0.251	43.33	0.56	1.75	0.27	0.20	0.997	0.232	60.79	0.60	0.25	0.1
18. Pandeypur	All Legs, GF	53.34	1.43	0.30	0.24	0.23	0.676	4.018	53.84	1.45	0.66	0.09	0.17	0.693	3.911	50.70	1.39	0.61	0.3
	FF	69.61	-0.59	-1.37	-0.10	0.37	0.972	0.714	69.88	-0.61	-1.74	0.01	0.37	0.952	0.932	59.31	0.70	-0.77	-0.0
	SF	68.05	-0.65	-2.54	-0.14	0.43	0.964	0.893	67.34	-0.50	-3.24	0.02	0.43	0.935	1.192	53.75	1.13	-1.05	0.0
19. Police	All Legs,	84.15	-0.79	-0.28	0.05	0.18	0.936	0.733	82.95	-0.74	-0.31	0.03	0.20	0.946	0.674	84.46	-0.60	-0.32	0.0

Table 6.5(a). Check for adequacy of model developed for floor-wise intersection (chi-square test)

Equation Number		**6.1**			**6.2**			**6.3**			**6.4**		
Output of $\chi 2$ test		Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	df	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value
Intersection	Floor												
1. BHU Gate	GF	12.315	51	68.67	1.837	51	68.67	12.018	51	68.67	1.839	51	68.67
	FF	0.000	15	25.00	0.006	15	25.00	0.008	15	25.00	0.003	15	25.00
2. Ravidas Gate	GF	1.202	69	89.39	1.362	69	89.39	1.548	69	89.39	1.628	69	89.39
	FF	0.946	51	68.67	0.690	51	68.67	1.465	51	68.67	0.742	51	68.67
	SF	0.001	15	25.00	0.000	15	25.00	0.002	15	25.00	0.001	15	25.00
3. Lanka-Sankatmochan	GF	0.794	51	68.67	0.148	51	68.67	0.157	51	68.67	0.159	51	68.67
	FF	0.061	33	47.40	0.048	33	47.40	0.059	33	47.40	0.048	33	47.40
	SF	3.455	33	47.40	0.049	33	47.40	0.086	33	47.40	0.052	33	47.40
4. Durgakund Temple	GF	0.017	33	47.40	0.010	33	47.40	0.019	33	47.40	0.007	33	47.40
	FF	0.000	15	25.00	0.000	15	25.00	0.000	15	25.00	0.000	15	25.00
5. Bhelupur	GF	1.178	51	68.67	1.246	51	68.67	1.178	51	68.67	1.828	51	68.67
	FF	1.296	51	68.67	1.326	51	68.67	1.229	51	68.67	2.052	51	68.67
	SF	0.601	33	47.40	0.641	33	47.40	0.939	33	47.40	1.400	33	47.40
6. Rathyatra	GF	0.396	51	68.67	0.708	51	68.67	0.483	51	68.67	0.710	51	68.67
	FF	0.105	33	47.40	0.074	33	47.40	0.131	33	47.40	0.153	33	47.40
	SF	0.109	33	47.40	0.081	33	47.40	0.111	33	47.40	0.119	33	47.40
7. Sigra	GF	0.847	51	68.67	0.302	51	68.67	0.161	51	68.67	0.220	51	68.67
	FF	0.017	33	47.40	0.154	33	47.40	0.089	33	47.40	0.020	33	47.40
	SF	0.001	15	25.00	0.002	15	25.00	0.000	15	25.00	0.001	15	25.00
8. Englishia line	GF	13.328	51	68.67	9.918	51	68.67	6.932	51	68.67	5.541	51	68.67

9. Andharapul	BW	2.652	69	89.39	2.745	69	89.39	2.202	69	89.39	2.328	69	89.39
10. Chaukaghat	GF	1.936	87	109.77	0.737	87	109.77	1.876	87	109.77	0.826	87	109.77
	FF	0.194	51	68.67	0.210	51	68.67	0.198	51	68.67	0.386	51	68.67
11. Godowlia	GF	0.021	33	47.40	0.031	33	47.40	0.126	33	47.40	0.051	33	47.40
	FF	0.029	33	47.40	0.037	33	47.40	0.029	33	47.40	0.036	33	47.40
	SF	0.067	15	25.00	0.103	15	25.00	0.031	15	25.00	0.050	15	25.00
12. Girjaghar	GF	0.259	69	89.39	0.232	69	89.39	0.243	69	89.39	0.204	69	89.39
	FF	0.234	69	89.39	0.243	69	89.39	0.193	69	89.39	0.203	69	89.39
	SF	0.003	33	47.40	0.010	33	47.40	0.005	33	47.40	0.010	33	47.40
13. Bhikharipur	GF	0.150	51	68.67	0.092	51	68.67	0.092	51	68.67	0.065	51	68.67
	FF	0.001	15	25.00	0.007	15	25.00	0.001	15	25.00	0.371	15	25.00
	SF	0.004	15	25.00	0.005	15	25.00	0.000	15	25.00	0.000	15	25.00
14. Manduadih	GF	2.405	69	89.39	2.606	69	89.39	1.277	69	89.39	1.409	69	89.39
	FF	0.003	33	47.40	0.011	33	47.40	0.006	33	47.40	0.018	33	47.40
	SF	0.004	15	25.00	0.000	15	25.00	0.000	15	25.00	0.000	15	25.00
15. Lahartara-Manduadih	GF	0.554	51	68.67	0.541	51	68.67	0.434	51	68.67	0.498	51	68.67
	FF	1.177	51	68.67	1.357	51	68.67	1.420	51	68.67	1.410	51	68.67
16. Radisson - Varuna Bridge	GF	0.161	51	68.67	0.264	51	68.67	0.162	51	68.67	0.286	51	68.67
	FF	0.001	15	25.00	0.002	15	25.00	0.000	15	25.00	0.001	15	25.00
	SF	0.000	15	25.00	0.002	15	25.00	0.001	15	25.00	0.016	15	25.00
17. Bhojubir	GF	0.464	51	68.67	0.625	51	68.67	1.269	51	68.67	0.260	51	68.67
	FF	0.569	51	68.67	0.796	51	68.67	0.341	51	68.67	0.310	51	68.67
	SF	0.001	15	25.00	0.002	15	25.00	0.002	15	25.00	0.006	15	25.00

18. Pandeypur	GF	4.973	117	143.25	4.736	117	143.25	4.255	117	143.25	3.949	117	143.25
	FF	0.049	33	47.40	0.085	33	47.40	0.043	33	47.40	0.028	33	47.40
	SF	0.088	33	47.40	0.140	33	47.40	0.036	33	47.40	0.025	33	47.40
19. Police Line	GF	0.118	69	89.39	0.100	69	89.39	0.229	69	89.39	0.182	69	89.39
	FF	0.005	33	47.40	0.008	33	47.40	0.006	33	47.40	0.010	33	47.40
	SF	0.002	15	25.00	0.003	15	25.00	0.002	15	25.00	0.000	15	25.00
		52.794			34.335			41.099			29.464		

Table 6.5(b). Check for adequacy of model developed for floor-wise intersection (t-test)

Equation Number		6.1					6.2					6.3			
Output of t-test		P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat
Intersection	Floor														
1. BHU Gate	GF	1E-05	*DS*	34	-5.072	2.032	9E-01	*DI*	34	-0.126	2.032	2E-05	*DS*	34	-5.007
	FF	0.976	*DI*	10	0.031	2.228	0.752	*DI*	10	0.325	2.228	0.740	*DI*	10	0.342
2. Ravidas Gate	GF	0.806	*DI*	46	-0.247	2.013	0.993	*DI*	46	0.009	2.013	0.744	*DI*	46	-0.329
	FF	0.988	*DI*	34	-0.016	2.032	0.988	*DI*	34	0.015	2.032	1.000	*DI*	34	0.000
	SF	0.993	*DI*	10	0.009	2.228	0.999	*DI*	10	0.001	2.228	1.000	*DI*	10	0.000
3. Lanka-Sankatmochan	GF	0.009	*DS*	34	2.774	2.032	0.981	*DI*	34	-0.024	2.032	0.934	*DI*	34	-0.083
	FF	0.997	*DI*	22	0.003	2.074	0.999	*DI*	22	-0.001	2.074	0.995	*DI*	22	-0.006
	SF	0.001	*DS*	22	3.866	2.074	0.999	*DI*	22	0.001	2.074	0.743	*DI*	22	0.332
4. Durgakund Temple	GF	0.999	*DI*	22	0.002	2.074	0.997	*DI*	22	0.004	2.074	0.992	*DI*	22	0.010
	FF	0.997	*DI*	10	0.004	2.228	0.999	*DI*	10	0.001	2.228	0.997	*DI*	10	-0.004
5. Bhelupur	GF	0.999	*DI*	46	-0.002	2.013	0.996	*DI*	46	0.004	2.013	1.000	*DI*	46	0.000
	FF	0.847	*DI*	34	-0.194	2.032	0.890	*DI*	34	-0.139	2.032	0.843	*DI*	34	0.199
	SF	0.931	*DI*	22	-0.088	2.074	0.991	*DI*	22	0.011	2.074	0.905	*DI*	22	-0.121
6. Rathyatra	GF	0.666	*DI*	34	-0.436	2.032	0.671	*DI*	34	-0.429	2.032	0.817	*DI*	34	-0.233
	FF	0.973	*DI*	22	-0.034	2.074	0.988	*DI*	22	-0.015	2.074	0.966	*DI*	22	-0.043
	SF	0.874	*DI*	22	0.161	2.074	0.899	*DI*	22	-0.128	2.074	0.985	*DI*	22	0.019
7. Sigra	GF	0.431	*DI*	34	0.796	2.032	0.994	*DI*	34	-0.008	2.032	0.834	*DI*	34	0.211
	FF	0.785	*DI*	22	0.276	2.074	0.256	*DI*	22	1.166	2.074	0.419	*DI*	22	0.823
	SF	0.902	*DI*	10	0.127	2.228	0.963	*DI*	10	0.048	2.228	0.990	*DI*	10	-

11. Godowlia	GF	0.999	*DI*	22	-0.001	2.074	0.995	*DI*	22	-0.006	2.074	0.234	*DI*	22	1.224
	FF	0.864	*DI*	22	-0.174	2.074	0.830	*DI*	22	0.218	2.074	0.973	*DI*	22	-0.034
	SF	0.472	*DI*	10	0.747	2.228	0.318	*DI*	10	1.051	2.228	0.762	*DI*	10	-0.312
12. Girjaghar	GF	0.991	*DI*	46	-0.011	2.013	0.916	*DI*	46	0.106	2.013	0.564	*DI*	46	-0.581
	FF	0.684	*DI*	46	-0.409	2.013	0.746	*DI*	46	-0.326	2.013	0.890	*DI*	46	0.139
	SF	0.933	*DI*	22	-0.085	2.074	0.711	*DI*	22	-0.376	2.074	0.821	*DI*	22	0.230
13. Bhikharipur	GF	0.997	*DI*	34	0.004	2.032	0.705	*DI*	34	-0.382	2.032	0.746	*DI*	34	0.326
	FF	0.814	*DI*	10	-0.241	2.228	0.523	*DI*	10	0.662	2.228	0.820	*DI*	10	-0.233
	SF	0.646	*DI*	10	-0.473	2.228	0.620	*DI*	10	-0.512	2.228	0.958	*DI*	10	-0.054
14. Manduadih	GF	0.877	*DI*	46	0.155	2.013	0.810	*DI*	46	0.242	2.013	0.984	*DI*	46	0.020
	FF	0.973	*DI*	22	-0.034	2.074	0.807	*DI*	22	0.247	2.074	0.950	*DI*	22	0.063
	SF	0.859	*DI*	10	-0.183	2.228	0.946	*DI*	10	-0.069	2.228	0.998	*DI*	10	0.003
15. Lahartara-Manduadih	GF	0.996	*DI*	34	-0.005	2.032	0.872	*DI*	34	-0.163	2.032	0.938	*DI*	34	0.243
	FF	0.931	*DI*	34	-0.087	2.032	0.858	*DI*	34	-0.180	2.032	0.977	*DI*	34	0.029
16. Radisson - Varuna Bridge	GF	0.896	*DI*	34	-0.132	2.032	0.854	*DI*	34	0.186	2.032	0.823	*DI*	34	-0.226
	FF	0.928	*DI*	10	-0.092	2.228	0.878	*DI*	10	-0.158	2.228	0.957	*DI*	10	0.055
	SF	0.983	*DI*	10	-0.021	2.228	0.904	*DI*	10	0.124	2.228	0.921	*DI*	10	0.102
17. Bhojubir	GF	0.994	*DI*	34	0.007	2.032	0.916	*DI*	34	0.106	2.032	0.148	*DI*	34	-1.480
	FF	0.908	*DI*	34	-	2.032	0.913	*DI*	34	0.110	2.032	0.882	*DI*	34	-

19. Police Line	GF	0.920	*DI*	46	-0.101	2.013	0.955	*DI*	46	-0.057	2.013	0.765	*DI*	46	0.301
	FF	0.953	*DI*	22	0.059	2.074	0.828	*DI*	22	-0.220	2.074	0.942	*DI*	22	-0.073
	SF	0.948	*DI*	10	0.067	2.228	0.961	*DI*	10	0.050	2.228	0.894	*DI*	10	0.136
sum =		40.367					41.708					40.456			

Table 6.6(a). Calibration/validation of model developed for floor-wise intersection (chi-square test)

Equation Number		**6.1**			**6.2**			**6.3**			**6.4**		
Output of $\chi 2$ test		Obtained $\chi 2$ value	df	Critical χ^2 value	Obtained $\chi 2$ value	df	Critical χ^2 value	Obtained $\chi 2$ value	df	Critical χ^2 value	Obtained $\chi 2$ value	df	Critical χ^2 value
Intersection	Floor												
1. BHU Gate	GF	5.868	15	25.00	3.708	15	25.00	5.401	15	25.00	3.359	15	25.00
	FF	0.083	3	7.81	0.046	3	7.81	0.191	3	7.81	0.044	3	7.81
2. Ravidas Gate	GF	0.771	21	32.67	3.802	21	32.67	0.814	21	32.67	3.530	21	32.67
	FF	0.976	15	25.00	0.653	15	25.00	1.241	15	25.00	1.107	15	25.00
	SF	0.007	3	7.81	0.020	3	7.81	0.010	3	7.81	0.080	3	7.81
3. Lanka-Sankatmochan	GF	0.215	15	25.00	0.079	15	25.00	0.072	15	25.00	0.074	15	25.00
	FF	0.018	9	16.92	0.020	9	16.92	0.011	9	16.92	0.017	9	16.92
	SF	0.658	9	16.92	0.022	9	16.92	0.009	9	16.92	0.018	9	16.92
4. Durgakund Temple	GF	0.024	15	25.00	0.011	15	25.00	0.008	15	25.00	0.006	15	25.00
	FF	0.007	3	7.81	0.011	3	7.81	0.019	3	7.81	0.008	3	7.81
5. Bhelupur	GF	0.962	15	25.00	3.932	15	25.00	0.978	15	25.00	3.404	15	25.00
	FF	0.519	15	25.00	0.636	15	25.00	0.058	15	25.00	0.539	15	25.00
	SF	0.098	9	16.92	0.274	9	16.92	0.079	9	16.92	0.774	9	16.92
6. Rathyatra	GF	0.360	15	25.00	0.427	15	25.00	0.340	15	25.00	0.443	15	25.00
	FF	0.040	9	16.92	0.145	9	16.92	0.028	9	16.92	0.075	9	16.92
	SF	0.053	9	16.92	0.111	9	16.92	0.040	9	16.92	0.022	9	16.92
7. Sigra	GF	0.072	15	25.00	0.062	15	25.00	0.118	15	25.00	0.054	15	25.00
	FF	0.010	9	16.92	0.027	9	16.92	0.019	9	16.92	0.005	9	16.92
	SF	0E+00	3	7.81	0.000	3	7.81	0.000	3	7.81	0.000	3	7.81
8. Englishia line	GF	4.860	15	25.00	3.649	15	25.00	5.591	15	25.00	4.362	15	25.00

9. Andharapul	BW	0.648	21	32.67	0.604	21	32.67	0.518	21	32.67	0.400	21	32.67
10. Chaukaghat	GF	0.526	27	40.11	0.504	27	40.11	0.474	27	40.11	0.431	27	40.11
	FF	0.146	15	25.00	0.109	15	25.00	0.188	15	25.00	0.141	15	25.00
11. Godowlia	GF	0.073	9	16.92	0.425	9	16.92	0.039	9	16.92	0.423	9	16.92
	FF	0.025	9	16.92	0.002	9	16.92	0.005	9	16.92	0.002	9	16.92
	SF	0.342	3	7.81	0.639	3	7.81	0.098	3	7.81	0.690	3	7.81
12. Girjaghar	GF	0.062	21	32.67	0.053	21	32.67	0.041	21	32.67	0.033	21	32.67
	FF	0.079	21	32.67	0.059	21	32.67	0.036	21	32.67	0.031	21	32.67
	SF	0.001	9	16.92	0.003	9	16.92	0.003	9	16.92	0.006	9	16.92
13. Bhikharipur	GF	0.052	15	25.00	0.041	15	25.00	0.023	15	25.00	0.022	15	25.00
	FF	0.007	3	7.81	0.001	3	7.81	0.010	3	7.81	0.137	3	7.81
	SF	0.004	3	7.81	0.003	3	7.81	0.002	3	7.81	0.001	3	7.81
14. Manduadih	GF	1.112	21	32.67	1.368	21	32.67	0.159	21	32.67	0.279	21	32.67
	FF	0.006	9	16.92	0.048	9	16.92	0.004	9	16.92	0.010	9	16.92
	SF	0.002	3	7.81	0.000	3	7.81	0.000	3	7.81	0.000	3	7.81
15. Lahartara-Manduadih	GF	0.109	15	25.00	0.051	15	25.00	0.059	15	25.00	0.120	15	25.00
	FF	0.114	15	25.00	0.078	15	25.00	0.158	15	25.00	0.076	15	25.00
16. Radisson - Varuna Bridge	GF	0.046	15	25.00	0.090	15	25.00	0.066	15	25.00	0.141	15	25.00
	FF	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81	0.001	3	7.81
	SF	0.000	3	7.81	0.001	3	7.81	0.001	3	7.81	0.009	3	7.81
17. Bhojubir	GF	0.190	15	25.00	0.179	15	25.00	0.483	15	25.00	0.030	15	25.00
	FF	0.232	15	25.00	0.265	15	25.00	4.457	15	25.00	0.407	15	25.00
	SF	0.003	3	7.81	0.001	3	7.81	0.000	3	7.81	0.001	3	7.81

18. Pandeypur	GF	2.438	27	40.11	2.382	27	40.11	2.392	27	40.11	2.112	27	40.11
	FF	0.036	9	16.92	0.100	9	16.92	0.003	9	16.92	0.018	9	16.92
	SF	0.058	9	16.92	0.103	9	16.92	0.014	9	16.92	0.019	9	16.92
19. Police Line	GF	0.077	21	32.67	0.035	21	32.67	0.162	21	32.67	0.070	21	32.67
	FF	0.000	9	16.92	0.001	9	16.92	0.001	9	16.92	0.001	9	16.92
	SF	0.272	3	7.81	0.012	3	7.81	0.003	3	7.81	0.025	3	7.81
		22.264			24.792			24.425			23.552		

Table 6.6(b). Calibration/validation of model developed for floor-wise intersection (t-test)

Equation Number		6.1					6.2						
Output of t-test		P (T≤t) two-tail	*DS/ DI*	df	t-Stat	t Critical two-tail	P (T≤t) two-tail	*DS/ DI*	df	t-Stat	t Critical two-tail	P (T≤t) two-tail	*DS/ DI*
Intersection	Floor												
1. BHU Gate	GF	0.894	*DI*	10	-0.137	2.228	0.309	*DI*	10	1.199	2.228	0.289	*DI*
	FF	0.593	*DI*	2	0.631	4.303	0.674	*DI*	2	-0.487	4.303	0.378	*DI*
2. Ravidas Gate	GF	0.921	*DI*	14	0.101	2.145	0.163	*DI*	14	-1.471	2.145	0.848	*DI*
	FF	0.875	*DI*	10	0.161	2.228	0.791	*DI*	10	0.272	2.228	0.578	*DI*
	SF	0.845	*DI*	2	-0.222	4.303	0.734	*DI*	2	-0.390	4.303	0.955	*DI*
3. Lanka-Sankatmochan	GF	0.227	*DI*	10	1.287	2.228	0.860	*DI*	10	-0.181	2.228	0.816	*DI*
	FF	0.779	*DI*	6	-0.294	2.447	0.769	*DI*	6	-0.307	2.447	0.833	*DI*
	SF	0.157	*DI*	6	1.617	2.447	0.766	*DI*	6	-0.311	2.447	0.928	*DI*
4. Durgakund Temple	GF	0.887	*DI*	6	0.149	2.447	0.914	*DI*	6	0.113	2.447	0.819	*DI*
	FF	0.778	*DI*	2	0.322	4.303	0.714	*DI*	2	0.422	4.303	0.763	*DI*
5. Bhelupur	GF	0.364	*DI*	14	-0.939	2.145	0.016	*DS*	14	0.000	2.145	0.337	*DI*
	FF	0.809	*DI*	10	-0.248	2.228	0.743	*DI*	10	-0.337	2.228	0.983	*DI*
	SF	0.805	*DI*	6	-0.258	2.447	0.727	*DI*	6	-0.365	2.447	0.856	*DI*
6. Rathyatra	GF	0.615	*DI*	10	-0.518	2.228	0.768	*DI*	10	-0.303	2.228	0.474	*DI*
	FF	0.763	*DI*	6	0.315	2.447	0.589	*DI*	6	0.571	2.447	0.895	*DI*
	SF	0.697	*DI*	6	0.408	2.447	0.622	*DI*	6	0.520	2.447	0.933	*DI*
7. Sigra	GF	0.826	*DI*	10	0.226	2.228	0.945	*DI*	10	0.071	2.228	0.723	*DI*
	FF	0.859	*DI*	6	0.185	2.447	0.367	*DI*	6	0.975	2.447	0.470	*DI*
	SF	0.929	*DI*	2	0.100	4.303	0.819	*DI*	2	0.261	4.303	0.706	*DI*
8. Englishia line	GF	0.033	*DS*	10	2.472	2.228	0.062	*DI*	10	2.098	2.228	0.024	*DS*

	FF	0.418	*DI*	6	-0.870	2.447	0.865	*DI*	6	0.177	2.447	0.697	*DI*
	SF	0.059	*DI*	2	3.945	4.303	0.015	*DS*	2	-7.998	4.303	0.253	*DI*
12. Girjaghar	GF	0.910	*DI*	14	-0.115	2.145	0.947	*DI*	14	-0.068	2.145	0.693	*DI*
	FF	0.724	*DI*	14	-0.361	2.145	0.792	*DI*	14	-0.269	2.145	0.992	*DI*
	SF	0.986	*DI*	6	0.018	2.447	0.836	*DI*	6	-0.216	2.447	0.802	*DI*
13. Bhikharipur	GF	0.920	*DI*	10	-0.104	2.228	0.695	*DI*	10	-0.403	2.228	0.906	*DI*
	FF	0.560	*DI*	2	-0.694	4.303	0.813	*DI*	2	0.269	4.303	0.479	*DI*
	SF	0.601	*DI*	2	-0.614	4.303	0.691	*DI*	2	-0.459	4.303	0.747	*DI*
14. Manduadih	GF	0.805	*DI*	14	-0.252	2.145	0.918	*DI*	14	-0.105	2.145	0.825	*DI*
	FF	0.752	*DI*	6	0.331	2.447	0.370	*DI*	6	0.969	2.447	0.808	*DI*
	SF	0.928	*DI*	2	-0.102	4.303	0.979	*DI*	2	0.030	4.303	0.972	*DI*
15. Lahartara-Manduadih	GF	0.969	*DI*	10	0.040	2.228	0.856	*DI*	10	0.186	2.228	0.979	*DI*
	FF	0.933	*DI*	10	-0.086	2.228	0.930	*DI*	10	0.090	2.228	0.844	*DI*
16. Radisson - Varuna Bridge	GF	0.756	*DI*	10	-0.319	2.228	0.782	*DI*	10	0.284	2.228	0.611	*DI*
	FF	0.906	*DI*	2	-0.134	4.303	0.889	*DI*	2	-0.158	4.303	0.940	*DI*
	SF	0.989	*DI*	2	-0.015	4.303	0.917	*DI*	2	0.117	4.303	0.889	*DI*
17. Bhojubir	GF	0.961	*DI*	10	-0.050	2.228	0.989	*DI*	10	0.014	2.228	0.445	*DI*
	FF	0.914	*DI*	10	-0.111	2.228	0.919	*DI*	10	0.104	2.228	0.020	*DS*
	SF	0.882	*DI*	2	-0.168	4.303	0.923	*DI*	2	-0.110	4.303	0.965	*DI*
18. Pandeypur	GF	0.734	*DI*	18	0.345	2.101	0.763	*DI*	18	0.306	2.101	0.600	*DI*
	FF	0.957	*DI*	18	0.056	2.101	0.760	*DI*	18	0.320	2.101	0.983	*DI*

Table 6.7. Regression output for floor-wise city model

Equation number		**6.1**						
Output parameters of regression analysis		Intercept	Coeff. of NC	Coeff. of PCU/d	Coeff. of p_1	Coeff. of $\%AO$	R^2	SE
Intersection and floor		(a)	(b)	(c)	(d)	(e)		
All intersections,	GF	72.66	-0.22	0.08	0.06	0.22	0.404	3.717
	FF	74.65	-0.69	0.19	0.07	0.20	0.397	4.024
	SF	72.35	-0.64	0.20	0.14	0.21	0.453	4.337
							sum =	12.078

Table 6.7. Contd…

Equation number		**6.2**						
Output parameters of regression analysis		Intercept	Coeff. of NC	Coeff. of Q_w/d	Coeff. of $p2_1$	Coeff. of $\%AO$	R^2	SE
Intersection and floor		(a)	(b)	(c)	(d)	(e)		
All intersections,	GF	72.45	-0.19	0.10	0.02	0.22	0.399	3.735
	FF	74.74	-0.67	0.15	0.02	0.21	0.391	4.044
	SF	72.08	-0.60	0.56	0.06	0.19	0.464	4.294
							sum =	12.074

Table 6.7. Contd…

Equation number		**6.3**						
Output parameters of regression analysis Intersection and floor		Intercept (a)	Coeff. of NR (b)	Coeff. of PCU/d (c)	Coeff. of p_1 (d)	Coeff. of $\%AO$ (e)	R^2	SE
All intersections,	GF	70.45	0.03	0.10	0.06	0.22	0.401	3.726
	FF	69.48	-0.05	0.24	0.05	0.21	0.371	4.111
	SF	69.69	-0.24	0.20	0.12	0.23	0.431	4.426
							sum =	12.263

Table 6.7. Contd…

Equation number		**6.4**						
Output parameters of regression analysis Intersection and floor		Intercept (a)	Coeff. of NR (b)	Coeff. of Q_w/d (c)	Coeff. of $p2_1$ (d)	Coeff. of $\%AO$ (e)	R^2	SE
All intersections,	GF	70.51	0.03	0.12	0.01	0.22	0.396	3.743
	FF	69.66	-0.04	0.20	0.01	0.22	0.366	4.127
	SF	68.97	-0.17	0.59	0.05	0.20	0.442	4.382
							sum =	12.252

Table 6.8(a). Check for adequacy of floor-wise city model (chi-square test)

Equation Number	**6.1**			**6.2**			**6.3**			**6.4**		
Output of $\chi 2$ test	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value
GF	63.857	1167	1247.31	64.463	1167	1247.31	64.204	1167	1247.31	65.241	1167	1247.31
FF	43.270	663	723.73	54.152	663	723.73	45.276	663	723.73	45.418	663	723.73
SF	25.320	321	363.50	26.634	321	363.50	26.298	321	363.50	26.847	321	363.50
sum =	132.447			145.249			135.778			137.506		

Table 6.8(b). Check for adequacy of floor-wise city model (t-test)

Equation Number	**6.1**					**6.2**				
Output of t-test	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail
GF	0.672	*DI*	778	-0.423	1.963	0.824	*DI*	778	-0.222	1.963
FF	0.885	*DI*	442	0.145	1.965	0.000	*DS*	442	4.532	1.965
SF	0.299	*DI*	214	-1.041	1.971	0.115	*DI*	214	1.582	1.971
sum =	1.856					0.939				

Table 6.8(b). Check for adequacy of floor-wise city model (t-test) contd…

Equation Number	**6.3**					**6.4**				
Output of t-test	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail
GF	0.941	DI	778	0.074	1.963	0.367	DI	778	0.902	1.963
FF	0.602	DI	442	0.522	1.965	0.895	DI	442	-0.132	1.965
SF	0.426	DI	214	-0.797	1.971	0.178	DI	214	-1.353	1.971
sum =	1.970					1.440				

Table 6.9(a). Calibration/validation of floor-wise city model (chi-square test)

Equation Number	**6.1**			**6.2**			**6.3**			**6.4**		
Output of $\chi 2$ test	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value
GF	19.902	387	433.59	20.238	387	433.59	19.943	387	433.59	20.712	387	433.59
FF	14.063	219	254.24	18.042	219	254.24	14.144	219	254.24	14.213	219	254.24
SF	8.159	105	129.63	8.468	105	129.63	8.182	105	129.63	8.382	105	129.63
sum =	42.12			46.75			42.27			43.31		

Table 6.9(b). Calibration/validation of floor-wise city model (t-test)

Equation Number	**6.1**					**6.2**				
Output of t-test	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail
GF	0.907	DI	258	-0.117	1.969	0.997	DI	258	0.004	1.963
FF	0.754	DI	146	0.313	1.976	0.003	DS	146	2.993	1.965
SF	0.538	DI	70	-0.619	1.994	0.386	DI	70	0.873	1.971
sum =	2.199					1.385				

Table 6.9(b). Calibration/validation of floor-wise city model (t-test) contd…

Equation Number	**6.3**					**6.4**				
Output of t-test	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail
GF	0.820	DI	258	0.228	1.969	0.472	DI	258	0.721	1.969
FF	0.617	DI	146	0.501	1.976	0.948	DI	146	0.065	1.976
SF	0.626	DI	70	-0.489	1.994	0.407	DI	70	-0.835	1.994
sum =	2.064					1.826				

Table 6.10. Regression output for consolidated city model

Equation number	**6.1**						
Output parameters of regression analysis Intersection and floor	Intercept (a)	Coeff. of NC (b)	Coeff. of PCU/d (c)	Coeff. of p_1 (d)	Coeff. of $\%AO$ (e)	R^2	SE
All floors consolidated	72.40	-0.39	0.23	0.09	0.21	0.415	3.990

Table 6.10. Contd…

Equation number	**6.2**						
Output parameters of regression analysis Intersection and floor	Intercept (a)	Coeff. of NC (b)	Coeff. of Q_w/d (c)	Coeff. of $p2_1$ (d)	Coeff. of $\%AO$ (e)	R^2	SE
All floors consolidated	72.36	-0.36	0.27	0.02	0.21	0.411	4.003

Table 6.10. Contd…

Equation number	**6.3**						
Output parameters of regression analysis Intersection and floor	Intercept (a)	Coeff. of NR (b)	Coeff. of PCU/d (c)	Coeff. of p_1 (d)	Coeff. of $\%AO$ (e)	R^2	SE
All floors consolidated	69.16	0.00	0.26	0.08	0.21	0.406	4.022

Table 6.10. Contd…

Equation number	**6.4**						
Output parameters of regression analysis Intersection and floor	Intercept (a)	Coeff. of NR (b)	Coeff. of Q_w/d (c)	Coeff. of $p2_1$ (d)	Coeff. of $\%AO$ (e)	R^2	SE
All floors consolidated	69.31	0.01	0.30	0.02	0.21	0.403	4.030

Table 6.11(a). Check for adequacy of consolidated city model (chi-square test)

Equation Number	**6.1**			**6.2**			**6.3**			**6.4**		
Output of χ^2 test	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value
All floors consolidated	138.965	2157	2265.89	139.575	2157	2265.89	140.949	2157	2265.89	141.303	2157	2265.89

Table 6.11(b). Check for adequacy of consolidated city model (t-test)

Equation Number	**6.1**					**6.2**				
Output of t-test	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail
All floors consolidated	0.244	DI	1438	-1.166	1.962	0.420	DI	1438	-0.807	1.962

Table 6.11(b). Check for adequacy of consolidated city model (t-test) contd…

Equation Number	**6.3**					**6.4**				
Output of t-test	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail
All floors consolidated	0.757	DI	1438	0.310	1.962	0.860	DI	1438	-0.177	1.962

Table 6.12(a). Calibration/validation of consolidated city model (chi-square test)

Equation Number	**6.1**			**6.2**			**6.3**			**6.4**		
Output of $\chi 2$ test	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value	Obtained $\chi 2$ value	*df*	Critical χ^2 value
All floors consolidated	42.943	717	780.12	43.865	717	780.12	43.251	717	780.12	43.847	717	780.12

Table 6.12(b). Calibration/validation of consolidated city model (t-test)

Equation Number	**6.1**					**6.2**				
Output of t-test	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail
All floors consolidated	0.643	DI	478	-0.464	1.965	0.750	DI	478	-0.319	1.965

Table 6.12(b). Calibration/validation of consolidated city model (t-test) contd…

Equation Number	**6.3**					**6.4**				
Output of t-test	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail	P (T≤t) two-tail	*DS/ DI*	*df*	t-Stat	t- Critical two-tail
All floors consolidated	0.646	DI	478	0.459	1.965	0.913	DI	478	0.110	1.965