

Chapter 10: Predictive Method for Rural Two-Lane, Two-Way Roads

<i>Site Conditions</i>		
<u>Approach</u>	<u>Functional Classification</u>	<u>AADT (veh/day)</u>
DE 42/Seven Hickories Road	Rural Major Collector	7,711
DE 15/Brenford Road	Rural Major Collector	2,171
Seeneytown Road	Rural Local	1,688
Intersection Skew: 90°		
Left Turn Lanes: SB Brenford Road		
Right Turn Lanes: None		
Lighting: SW and SE quadrants		
Analysis Year: 2012		

Predictive Model for Intersections (Equation 10-3):

$$N_{predicted,int} = N_{SPF,int} \times C_i \times (CMF_{1i} \times CMF_{2i} \times CMF_{3i} \times CMF_{4i})$$

Safety Performance Function for Four-Leg, Stop-Controlled Intersections (Equation 10-9):

$$N_{SPF,AST} = \exp[-8.56 + 0.60 \times \ln(AADT_{maj}) + 0.61 \times \ln(AADT_{min})]$$

NOTE: Since side streets have two different AADT volumes, use the greater value.

$$N_{SPF,AST} = \exp[-8.56 + 0.60 \times \ln(7,711) + 0.61 \times \ln(2,171)]$$

$$N_{SPF,AST} = 4.47 \text{ crashes/year}$$

Inclusion of Crash Modification Factors (CMFs):

Skew (Base Condition = 90°):

$$CMF_{1i} = \exp(0.0054 \times skew)$$

$$CMF_{1i} = 1.00$$

Left Turn Lanes (Base Condition = None)

NOTE: Left turn lanes on side street approaches have no effect on the CMF, therefore it can be disregarded.

$$CMF_{2i} = 1.00$$

Right Turn Lanes (Base Condition = None)

$$CMF_{3i} = 1.00$$

Lighting (Base Condition = None)

$$CMF_{4i} = 1 - 0.38 \times p_{ni}$$

$$CMF_{4i} = 1 - 0.38 \times 0.244 \quad (\text{Table 10-15})$$

$$CMF_{4i} = 0.91$$

Inclusion of Calibration Factor (C_i):

$$C_i = 1.00$$

NOTE: DelDOT is in the process of formulating local calibration factors. Until a formal set of calibration factors has been issued by the Department, the value of C_i is assumed to be 1.00.

Inclusion in Predictive Model:

$$N_{predicted,int} = 4.47 \times 1.00 \times (1.00 \times 1.00 \times 1.00 \times 0.91)$$

$$N_{predicted,int} = 4.06 \text{ crashes/year}$$

Safety Performance Function for Four-Leg, Signalized Intersections (Equation 10-10):

$$N_{SPF,ASG} = \exp[-5.13 + 0.60 \times \ln(AADT_{maj}) + 0.20 \times \ln(AADT_{min})]$$

NOTE: Since side streets have two different AADT volumes, use the greater value.

$$N_{SPF,ASG} = \exp[-5.13 + 0.60 \times \ln(7,711) + 0.20 \times \ln(2,171)]$$

$$N_{SPF,ASG} = 5.91 \text{ crashes/year}$$

Inclusion of Crash Modification Factors (CMFs):

Skew (Base Condition = 90°):

$$CMF_{1i} = \exp(0.0054 \times skew)$$

$$CMF_{1i} = 1.00$$

Left Turn Lanes (Base Condition = None)

NOTE: Left turn lanes on side street approaches have no effect on the CMF, therefore it can be disregarded.

$$CMF_{2i} = 1.00$$

Right Turn Lanes (Base Condition = None)

$$CMF_{3i} = 1.00$$

Lighting (Base Condition = None)

$$CMF_{4i} = 1 - 0.38 \times p_{ni}$$

$$CMF_{4i} = 1 - 0.38 \times 0.286 \quad (\text{Table 10-15})$$

$$CMF_{4i} = 0.89$$

Inclusion of Calibration Factor (C_i):

$$C_i = 1.00$$

Inclusion in Predictive Model:

$$N_{predicted,int} = 4.47 \times 1.00 \times (1.00 \times 1.00 \times 1.00 \times 0.89)$$

$N_{predicted,int} = 5.26 \text{ crashes/year}$

Predicted Crash Type Distribution Comparison for All Severities (Table 10-6):

All Severities		Stop-Controlled N = 4.06		Signalized N = 5.26	
<u>Collision Type</u>		<u>%</u>	<u># Crashes</u>	<u>%</u>	<u># Crashes</u>
Single Vehicle Crashes	Animal	1.0%	0.04	0.2%	0.01
	Bicycle	0.1%	0.00	0.1%	0.01
	Pedestrian	0.1%	0.00	0.1%	0.01
	Overturn	0.5%	0.02	0.3%	0.02
	Run Off Road	12.2%	0.50	6.4%	0.34
	Other	0.8%	0.03	0.5%	0.03
	<i>Total Single Vehicle Crashes</i>	14.7%	0.60	7.6%	0.40
Multi-Vehicle Crashes	Angle	43.1%	1.75	27.4%	1.44
	Head On	4.0%	0.16	5.4%	0.28
	Rear End	24.2%	0.98	42.6%	2.24
	Sideswipe	10.1%	0.41	11.8%	0.62
	Other	3.9%	0.16	5.2%	0.27
	<i>Total Multi-Vehicle Crashes</i>	85.3%	3.46	92.4%	4.86
Total Crashes		100.0%	4.06	100.0%	5.26

Chapter 14: Crash Modification Factors (CMFs) for Intersections

Crash Summary, 1/1/2012 to 12/31/2012 (0.1-mile along all legs of intersection)

7 Crashes

5 Property Damage Only

2 Personal Injury

0 Fatality

3 Angle

2 Rear End

1 Left Turn

1 Other (Single Vehicle Crash)

Treatment #1: Convert Four-Leg Stop-Controlled Intersection to Four-Leg Signalized Intersection

Table 14-7: Rural Four-Leg

Crash Type	CMF	# Crashes (2012)	Predicted # Crashes per Year
Right Angle	0.23	3	0.7
Left Turn	0.4	1	0.4
Rear End	1.58	2	3.2
<i>All Types</i>	<i>0.56</i>	<i>7</i>	<i>3.9</i>

By using the CMF method for this specific treatment, we can conclude that this intersection will experience approximately 4 crashes per year.

Treatment #2: Convert Four-Leg Stop-Controlled Intersection to Four-Leg, All-Way Stop Intersection

Table 14-5: Rural, Assume all MUTCD warrants met

Crash Type	CMF	# Crashes (2012)	Predicted # Crashes per Year
<i>All Types</i>	<i>0.52</i>	<i>7</i>	<i>3.6</i>

By using the CMF method for this specific treatment, we can conclude that this intersection will experience approximately 4 crashes per year.

Treatment #3: Convert Four-Leg Stop-Controlled Intersection to Modern Roundabout

Table 14-4: Rural, Assume One-Lane

Crash Type	CMF	# Crashes (2012)	Predicted # Crashes per Year
<i>All Types</i>	<i>0.29</i>	<i>7</i>	<i>2.0</i>

By using the CMF method for this specific treatment, we can conclude that this intersection will experience approximately 2 crashes per year.

Crash Rates for Historical Countermeasures

At the intersection of DE 42 (Seven Hickories Road) & DE 15 (Brenford Road)/Seeneytown Road, two historical crash countermeasures have been implemented:

- Lighting on the southeast and southwest quadrants was installed on 1/5/2009.
- Solar-Powered, Flashing Red Beacons were installed on both STOP signs in the northbound and southbound directions on 11/8/2010.

Base Condition	Countermeasure	Study Period	# Years in Study Period	# Crashes in Study Period	Crash Rate (crashes per year)
No Treatment	Install Lighting	1/5/2006 - 1/5/2009	3.00	8	2.67
Lighting	Install Flashing Beacons	1/6/2009 - 11/8/2010	1.84	8	4.35
Flashing Beacons	Present	11/9/2010 - 7/19/2013	2.70	16	5.93

Chapter 12: Predictive Method for Urban and Suburban Arterials

<i>Site Conditions</i>		
<u>Approach</u>	<u>Functional Classification</u>	<u>AADT (veh/day)</u>
South Broad Street	Urban Arterial	7,842
East Green Street	Urban Local	2,000
West Green Street	Urban Local	2,000
<ul style="list-style-type: none">➤ Stop-controlled on side streets➤ Intersection Skew: 90°➤ Left Turn Lanes: All approaches➤ Right Turn Lanes: All approaches➤ Lighting: All quadrants➤ Analysis Year: 2012➤ 2 Bus Stops within 1,000 ft of intersection➤ No Schools within 1,000 ft of intersection➤ No Alcohol Sales Establishments within 1,000 ft of intersection➤ Pedestrian Volume (PedVol): 40 Peds/day➤ Maximum # of lanes for pedestrian crossing (n_{lanes}): 6		

Determine the predicted number of crashes at the existing stop-controlled intersection and a proposed signalized intersection.

****Determine the predicted number of crashes at the existing stop-controlled intersection.**

Safety Performance Function for Multi-Vehicle Crashes at Four-Leg, Stop-Controlled Intersections

$$N_{bimv,AST} = \exp[a + b \times \ln(AADT_{maj}) + c \times \ln(AADT_{min})] \quad \text{(Equation 12-21)}$$

NOTE: If side streets have two different AADT volumes, use the greater value.

Use Table 12-10 to find SPF coefficients for 4ST.

$$N_{bimv,AST} = \exp[-8.90 + 0.82 \times \ln(7,842) + 0.25 \times \ln(2,000)]$$

$$N_{bimv,AST} = 1.42 \text{ crashes/year}$$

If desired, find the number of multi-vehicle crashes based on severity level: Fatal/Injury (FI) and Property Damage Only (PDO). Use Equation 12-21 with appropriate crash severity coefficients from Table 12-10.

Fatal/Injury Crashes

$$N'_{bimv(FI),AST} = \exp[-11.13 + 0.93 \times \ln(7,842) + 0.28 \times \ln(2,000)]$$

$$N'_{bimv(FI),AST} = 0.51 \text{ crashes/year}$$

Property Damage Only Crashes

$$N'_{bimv(PDO),AST} = \exp[-8.74 + 0.77 \times \ln(7,842) + 0.23 \times \ln(2,000)]$$

$$N'_{bimv(PDO),AST} = 0.91 \text{ crashes/year}$$

Therefore, in order to assure that $N_{bimv(FI),AST}$ and $N_{bimv(PDO),AST}$ sum to $N_{bimv(total),AST}$,

$$N_{bimv(FI),AST} = N_{bimv(total),AST} \times \left(\frac{N'_{bimv(FI)}}{N'_{bimv(FI)} + N'_{bimv(PDO)}} \right) \quad \text{(Equation 12-22)}$$

$$N_{bimv(FI),AST} = 1.42 \times \left(\frac{0.51}{0.51 + 0.91} \right)$$

$$N_{bimv(FI),AST} = 0.51 \text{ crashes/year}$$

And thus,

$$N_{bimv(PDO),AST} = N_{bimv(total),AST} - N_{bimv(FI),AST} \quad \text{(Equation 12-23)}$$

$$N_{bimv(PDO),AST} = 1.42 - 0.51$$

$$N_{bimv(PDO),AST} = 0.91 \text{ crashes/year}$$

Safety Performance Function for Single-Vehicle Crashes at Four-Leg, Stop-Controlled Intersections

$$N_{bisv,4ST} = \exp[a + b \times \ln(AADT_{maj}) + c \times \ln(AADT_{min})] \quad \text{(Equation 12-24)}$$

NOTE: If side streets have two different AADT volumes, use the greater value.

Use Table 12-12 to find SPF coefficients for 4ST.

$$N_{bisv,4ST} = \exp[-5.33 + 0.33 \times \ln(7,842) + 0.12 \times \ln(2,000)]$$

$$N_{bisv,4ST} = 0.23 \text{ crashes/year}$$

Add results from both crash type totals.

$$N_{SPF,int} = N_{bimv,4ST} + N_{bisv,4ST} \quad \text{(Equation 12-7)}$$

$$N_{SPF,int} = 1.42 + 0.23$$

$$N_{SPF,int} = 1.65 \text{ crashes/year}$$

If desired, find the number of single-vehicle crashes based on severity level: Fatal/Injury (FI) and Property Damage Only (PDO). Use Equation 12-24 with appropriate crash severity coefficients from Table 12-12.

Fatal/Injury Crashes

**NOTE: No models are available for Fatal/Injury crashes for 4ST. Instead, use:

$$N_{bisv(FI),4ST} = N_{bisv(total)} \times (f_{bisv}) \quad \text{(Equation 12-27)}$$

Where

$$f_{bisv} = \text{proportion of fatal \& injury crashes for combined sites} = 0.28 \text{ for 4ST}$$

Therefore,

$$N'_{bisv(FI),4ST} = 0.23 \times (0.28)$$

$$N'_{bisv(FI),4ST} = 0.06 \text{ crashes/year}$$

Property Damage Only Crashes

$$N'_{bisv(PDO),4ST} = \exp[-7.04 + 0.36 \times \ln(7,842) + 0.25 \times \ln(2,000)]$$

$$N'_{bisv(PDO),4ST} = 0.16 \text{ crashes/year}$$

Therefore, in order to assure that $N_{bisv(FI),4ST}$ and $N_{bisv(PDO),4ST}$ sum to $N_{bisv(total),4ST}$,

$$N_{bisv(FI),AST} = N_{bisv(total),AST} \times \left(\frac{N'_{bisv(FI)}}{N'_{bisv(FI)} + N'_{bisv(PDO)}} \right) \quad \text{(Equation 12-25)}$$

$$N_{bisv(FI),AST} = 0.23 \times \left(\frac{0.06}{0.06 + 0.15} \right)$$

$$N_{bisv(FI),AST} = 0.07 \text{ crashes/year}$$

And thus,

$$N_{bisv(PDO),AST} = N_{bisv(total),AST} - N_{bisv(FI),AST} \quad \text{(Equation 12-23)}$$

$$N_{bisv(PDO),AST} = 0.23 - 0.07$$

$$N_{bisv(PDO),AST} = 0.16 \text{ crashes/year}$$

Inclusion of *Intersection* Crash Modification Factors (CMFs):

Intersection Left Turn Lanes (Table 12-24)

NOTE: Left turn lanes on side street approaches have no effect on the CMF for stop-controlled intersections, therefore these two approaches can be disregarded.

$$CMF_{1i} = 0.53$$

Intersection Left-Turn Phasing (Table 12-25)

Note: This CMF is only applicable to signalized intersections. For unsignalized intersections, use 1.00.

$$CMF_{2i} = 1.00$$

Intersection Right Turn Lanes (Table 12-26)

NOTE: Right turn lanes on side street approaches have no effect on the CMF for stop-controlled intersections, therefore these two approaches can be disregarded.

$$CMF_{3i} = 0.74$$

Right Turn on Red

Note: This CMF is only applicable to signalized intersections. For unsignalized intersections, use 1.00.

$$CMF_{4i} = 1.00$$

Lighting (Table 12-27)

$$CMF_{5i} = 1 - 0.38 \times p_{ni} \quad \text{(Equation 12-36)}$$

$$CMF_{5i} = 1 - 0.38 \times (0.229)$$

$$CMF_{5i} = 0.91$$

Red-Light Cameras

Note: This CMF is only applicable to signalized intersections. For unsignalized intersections, use 1.00.

$$CMF_{6i} = 1.00$$

**There are no pedestrian-vehicle CMFs for intersection type 4ST. To determine pedestrian and bicycle crash rates for 4ST, use the following:

$$N_{bi} = N_{SPF,int} \times (CMF_{1i} \times \dots \times CMF_{6i}) \quad \text{(Equation 12-6)}$$

$$N_{bi} = (1.65) \times (0.53) \times (1.00) \times (0.74) \times (1.00) \times (0.91) \times (1.00)$$

$$N_{bi} = 0.59 \text{ crashes/year}$$

$$N_{pedi} = N_{bi} \times (f_{pedi}) \quad \text{(Equation 12-30)}$$

Use Table 12-16 to determine f_{pedi}

$$N_{pedi} = 0.59 \times (0.022)$$

$$N_{pedi} = 0.01 \text{ crashes/year}$$

$$N_{bikei} = N_{pedi} \times (f_{bikei}) \quad \text{(Equation 12-31)}$$

Use Table 12-17 to determine f_{bikei}

$$N_{bikei} = 0.01 \times (0.018)$$

$$N_{bikei} = 0.00 \text{ crashes/year}$$

Inclusion of Calibration Factor C_i :

$$C_i = 1.00$$

NOTE: DeIDOT is in the process of formulating local calibration factors. Until a formal set of calibration factors has been issued by the Department, the value of C_i is assumed to be 1.00.

Inclusion in Predictive Model:

$$N_{predicted,int} = C_i \times (N_{bi} + N_{pedi} + N_{bikei}) \quad \text{(Equation 12-5)}$$

$$N_{predicted,int} = 1.00 \times (0.59 + 0.01 + 0.00)$$

$$N_{predicted,int} = 0.60 \text{ crashes/year}$$

****Determine the predicted number of crashes at the intersection, should a signal be installed.**

Safety Performance Function for Multi-Vehicle Crashes at Four-Leg, Signalized Intersections

$$N_{bimv,ASG} = \exp[a + b \times \ln(AADT_{maj}) + c \times \ln(AADT_{min})] \quad \text{(Equation 12-21)}$$

NOTE: If side streets have two different AADT volumes, use the greater value.

Use Table 12-10 to find SPF coefficients for 4SG.

$$N_{bimv,ASG} = \exp[-10.99 + 1.07 \times \ln(7,842) + 0.23 \times \ln(2,000)]$$

$$N_{bimv,ASG} = 1.42 \text{ crashes/year}$$

If desired, find the number of multi-vehicle crashes based on severity level: Fatal/Injury (FI) and Property Damage Only (PDO). Use Equation 12-21 with appropriate crash severity coefficients from Table 12-10.

Fatal/Injury Crashes

$$N'_{bimv(FI),ASG} = \exp[-13.14 + 1.18 \times \ln(7,842) + 0.22 \times \ln(2,000)]$$

$$N'_{bimv(FI),ASG} = 0.44 \text{ crashes/year}$$

Property Damage Only Crashes

$$N'_{bimv(PDO),ASG} = \exp[-11.02 + 1.02 \times \ln(7,842) + 0.24 \times \ln(2,000)]$$

$$N'_{bimv(PDO),ASG} = 0.98 \text{ crashes/year}$$

Therefore, in order to assure that $N_{bimv(FI),ASG}$ and $N_{bimv(PDO),ASG}$ sum to $N_{bimv(total),ASG}$,

$$N_{bimv(FI),ASG} = N_{bimv(total),ASG} \times \left(\frac{N'_{bimv(FI)}}{N'_{bimv(FI)} + N'_{bimv(PDO)}} \right) \quad \text{(Equation 12-22)}$$

$$N_{bimv(FI),ASG} = 1.42 \times \left(\frac{0.44}{0.44 + 0.98} \right)$$

$$N_{bimv(FI),ASG} = 0.44 \text{ crashes/year}$$

And thus,

$$N_{bimv(PDO),ASG} = N_{bimv(total),ASG} - N_{bimv(FI),ASG} \quad \text{(Equation 12-23)}$$

$$N_{bimv(PDO),ASG} = 1.42 - 0.44$$

$$N_{bimv(PDO),ASG} = 0.98 \text{ crashes/year}$$

Safety Performance Function for Single-Vehicle Crashes at Four-Leg, Signalized Intersections

$$N_{bisv,ASG} = \exp[a + b \times \ln(AADT_{maj}) + c \times \ln(AADT_{min})] \quad \text{(Equation 12-24)}$$

NOTE: If side streets have two different AADT volumes, use the greater value.

Use Table 12-12 to find SPF coefficients for 4SG.

$$N_{bisv,ASG} = \exp[-10.21 + 0.68 \times \ln(7,842) + 0.27 \times \ln(2,000)]$$

$$N_{bisv,ASG} = 0.13 \text{ crashes/year}$$

Add results from both crash types.

$$N_{SPF,int} = N_{bimv,ASG} + N_{bisv,ASG} \quad \text{(Equation 12-7)}$$

$$N_{SPF,int} = 1.42 + 0.13$$

$$N_{SPF,int} = 1.55 \text{ crashes/year}$$

If desired, find the number of single-vehicle crashes based on severity level: Fatal/Injury (FI) and Property Damage Only (PDO). Use Equation 12-24 with appropriate crash severity coefficients from Table 12-12.

Fatal/Injury Crashes

$$N'_{bisv(FI),ASG} = \exp[-9.25 + 0.43 \times \ln(7,842) + 0.29 \times \ln(2,000)]$$

$$N'_{bisv(FI),ASG} = 0.04 \text{ crashes/year}$$

Property Damage Only Crashes

$$N'_{bisv(PDO),ASG} = \exp[-11.34 + 0.78 \times \ln(7,842) + 0.25 \times \ln(2,000)]$$

$$N'_{bisv(PDO),ASG} = 0.09 \text{ crashes/year}$$

Therefore, in order to assure that $N_{bisv(FI),ASG}$ and $N_{bisv(PDO),ASG}$ sum to $N_{bisv(total),ASG}$,

$$N_{bisv(FI),ASG} = N_{bisv(total),ASG} \times \left(\frac{N'_{bisv(FI)}}{N'_{bisv(FI)} + N'_{bisv(PDO)}} \right) \quad \text{(Equation 12-25)}$$

$$N_{bisv(FI),ASG} = 0.13 \times \left(\frac{0.04}{0.04 + 0.09} \right)$$

$$N_{bisv(FI),ASG} = 0.04 \text{ crashes/year}$$

And thus,

$$N_{bisv(PDO),ASG} = N_{bisv(total),ASG} - N_{bisv(FI),ASG} \quad \text{(Equation 12-23)}$$

$$N_{b_{isv}(PDO),ASG} = 0.13 - 0.04$$
$$N_{b_{isv}(PDO),ASG} = 0.09 \text{ crashes/year}$$

Inclusion of *Intersection* Crash Modification Factors (CMFs):

Intersection Left Turn Lanes (Table 12-24)

$$CMF_{1i} = 0.66$$

Intersection Left-Turn Phasing (Table 12-25)

Note: Protected/Permissive left-turn phasing is assumed for this intersection.

$$CMF_{2i} = 0.99$$

Intersection Right Turn Lanes (Table 12-26)

$$CMF_{3i} = 0.85$$

Right Turn on Red

Note: Assume right turns on red are permitted on all approaches.

$$CMF_{4i} = 1.00$$

Lighting (Table 12-27)

$$CMF_{5i} = 1 - 0.38 \times p_{ni} \tag{Equation 12-36}$$
$$CMF_{5i} = 1 - 0.38 \times (0.235)$$
$$CMF_{5i} = 0.91$$

Red-Light Cameras

Note: Assume no red-light cameras will be in use at this intersection.

$$CMF_{6i} = 1.00$$

Therefore,

$$N_{bi} = N_{SPF,int} \times (CMF_{1i} \times \dots \times CMF_{6i}) \tag{Equation 12-6}$$
$$N_{bi} = 1.55 \times (0.66 \times 0.99 \times 0.85 \times 1.00 \times 0.91 \times 1.00)$$
$$N_{bi} = 0.78 \text{ crashes/year}$$

Inclusion of *Pedestrian* Crash Modification Factors (CMFs):

Bus Stops (Table 12-28)

$$CMF_{1p} = 2.78$$

Schools (Table 12-29)

$$CMF_{2p} = 1.00$$

Alcohol Sales Establishments (Table 12-30)

$$CMF_{3p} = 1.00$$

To determine pedestrian and bicycle crash rates for 4SG, use the following:

$$N_{pedi} = N_{pedbase} \times CMF_{1p} \times CMF_{2p} \times CMF_{3p} \quad \text{(Equation 12-28)}$$

Where: (Equation 12-29, Table 12-14)

$$N_{pedbase} = \exp(a + b \times \ln(AADT_{total}) + c \times \ln\left(\frac{AADT_{min}}{AADT_{maj}}\right) + d \times \ln(PedVol) + e \times n_{lanes}$$

$$N_{pedbase} = \exp(-9.53 + 0.40 \times \ln(9,842) + 0.26 \times \ln\left(\frac{2,000}{7,842}\right) + 0.45 \times \ln(40) + 0.04 \times (6)$$

$$N_{pedbase} = 0.01 \text{ crashes/year}$$

Therefore,

$$N_{pedi} = 0.01 \times (2.78) \times (1.00) \times (1.00)$$

$$N_{pedi} = 0.04 \text{ crashes/year}$$

And therefore,

$$N_{bikei} = N_{bi} \times f_{bikei} \quad \text{(Equation 12-31)}$$

Use Table 12-17 to determine f_{bikei}

$$N_{bikei} = 0.78 \times (0.015)$$

$$N_{bikei} = 0.01 \text{ crashes/year}$$

Inclusion of Calibration Factor C_i :

$$C_i = 1.00$$

NOTE: DelDOT is in the process of formulating local calibration factors. Until a formal set of calibration factors has been issued by the Department, the value of C_i is assumed to be 1.00.

Inclusion in Predictive Model:

$$N_{predicted,int} = C_i \times (N_{bi} + N_{pedi} + N_{bikei}) \quad \text{(Equation 12-5)}$$
$$N_{predicted,int} = 1.00 \times (0.78 + 0.04 + 0.01)$$

$$N_{predicted,int} = 0.83 \text{ crashes/year}$$

<p style="text-align: center;">Final Results:</p> $N_{predicted,int,AST} = 0.60 \text{ crashes/year}$ $N_{predicted,int,ASG} = 0.83 \text{ crashes/year}$
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