

# Roosevelt Boulevard Crash Narrative Takeaways: Preliminary Data Analysis Stories

## Danger to Pedestrians and Cyclists

Between 2012 and 2016, 4% of all crashes on Roosevelt Boulevard (134 total crashes) resulted in a death or serious injury. These crashes resulted in 63 deaths, and 96 major injuries. **Although crashes involving cyclists and pedestrians accounted for only 1% of all crashes on Roosevelt Boulevard between 2012 and 2016 (198 total crashes), cyclists and pedestrians account for 31% of all Deaths and Major Injuries in that period (42 total crashes).** In short, Roosevelt Boulevard is much more dangerous for people on foot or bike than it is for people in vehicles.

## Road Condition

Most crashes occur when the road is dry, indicating that adverse weather and poor road conditions might not be a major factor in the high number of crashes along the Boulevard. **Only 14% of all crashes (566 total crashes) took place when the road was anything other than dry,** and only 17% of crashes involving a death or serious injury (23 total crashes) occurred when the road was not dry.

## Illumination

Road illumination does not seem to have a strong effect on when crashes occur; **59% of all crashes occurred during daylight hours,** when it was light out. Illumination might influence the severity of crashes, however: of the 134 crashes that resulted in Deaths or Major Injuries, 67% occurred at night or during morning/evening lighting conditions rather than in the daytime. Similarly, **70% of crashes in which a pedestrian or cyclist was killed or seriously injured took place during non-daylight hours.**

## Driver Behavior and Speed

Driver behavior also seems to be a factor in the severity of crashes along Roosevelt Boulevard. 25% of all crashes resulting in death or major injury from 2012 to 2016 involved speeding, and **47% of crashes in which speeding was a factor resulted in a fatality.** Similarly, 60% of all crashes along the boulevard from 2012 to 2016 were related to aggressive driving, and **35% of crashes in which aggressive driving was a factor resulted in a fatality.**

## Time of Day

Crashes increase in frequency from 7:00am to 8:00am, during the morning rush-hour, and then drop slightly in the mid-morning. Crash rates rise sharply starting at noon and peak at 2:00pm, before dropping off as the evening progresses. **Most crashes involving cyclists and pedestrians take place in the early afternoon - when children are getting out of school and heading to afterschool programs or their homes - and in the evenings when shift workers leave work for the day.**

# Roosevelt Boulevard Crashes with KSI: Average and Comprehensive Cost in 2016

## Average Economic Cost by Injury Severity, or Crash, 2015

| Category                                | Cost            |
|---|-----------------|
| Death (K)                               | \$ 1,542,000.00 |
| Disabling (A)                           | \$ 90,000.00    |
| Evident (B)                             | \$ 26,000.00    |
| Possible (C)                            | \$ 21,400.00    |
| No Injury observed (O)                  | \$ 11,400.00    |
| Property damage only (cost per vehicle) | \$ 4,200.00     |

Source: [http://www.nsc.org/NSCDocuments\\_Corporate/estimating-costs.pdf](http://www.nsc.org/NSCDocuments_Corporate/estimating-costs.pdf)  
 \* Costs are for each death (not each fatal crash), injury (not each injury crash), and per-damaged vehicle

## Average Economic Cost of KSI Crashes along Roosevelt Boulevard, 2016

| Category  | Crashes | Persons or Vehicles | Cost             |
|---|---------|---------------------|------------------|
| Death (K)   | 14      | 16                  | \$ 24,672,000.00 |
| Disabling (A)                                     | 19      | 20                  | \$ 1,800,000.00  |
| Evident (B)                                       | -       | -                   | -                |
| Possible (C)                                      | -       | -                   | -                |
| No Injury observed (O)                            | -       | -                   | -                |
| Property damage only (cost per vehicle, KSI only) | 33      | 58                  | \$ 243,600.00    |

|                                    |                         |
|------------------------------------|-------------------------|
| Roosevelt Boulevard KSI Cost 2016: | <b>\$ 26,715,600.00</b> |
|------------------------------------|-------------------------|

## Average Comprehensive Cost by Injury Severity 2015

| Category               | Cost            |
|------------------------|-----------------|
| Death (K)              | \$10,082,000    |
| Disabling (A)          | \$ 1,103,000.00 |
| Evident (B)            | \$ 304,000.00   |
| Possible (C)           | \$ 141,000.00   |
| No Injury observed (O) | \$ 46,000.00    |

Source: [http://www.nsc.org/NSCDocuments\\_Corporate/estimating-costs.pdf](http://www.nsc.org/NSCDocuments_Corporate/estimating-costs.pdf)  
 \* Costs are for each death (not each fatal crash), injury (not each injury crash), and per-damaged vehicle

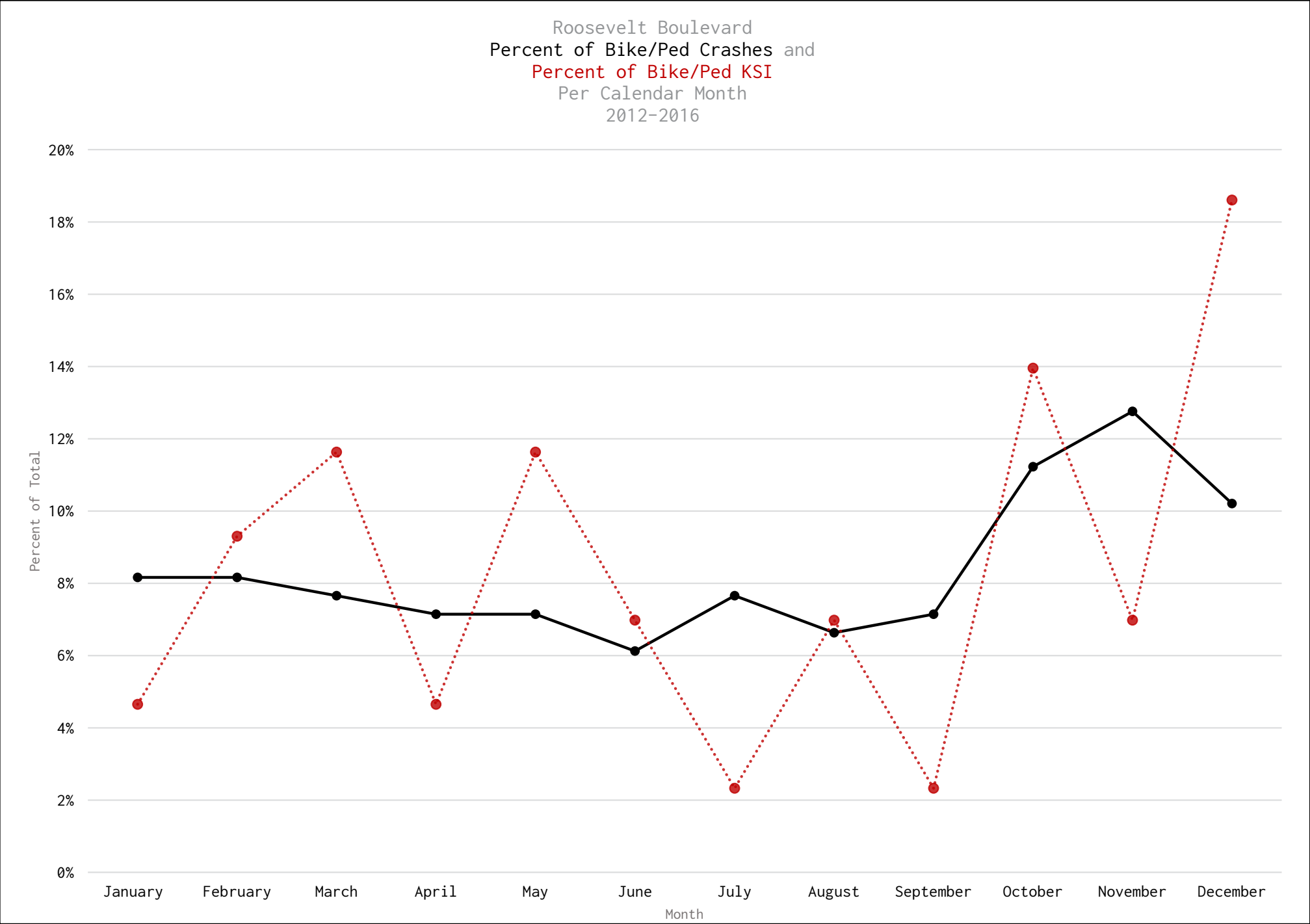
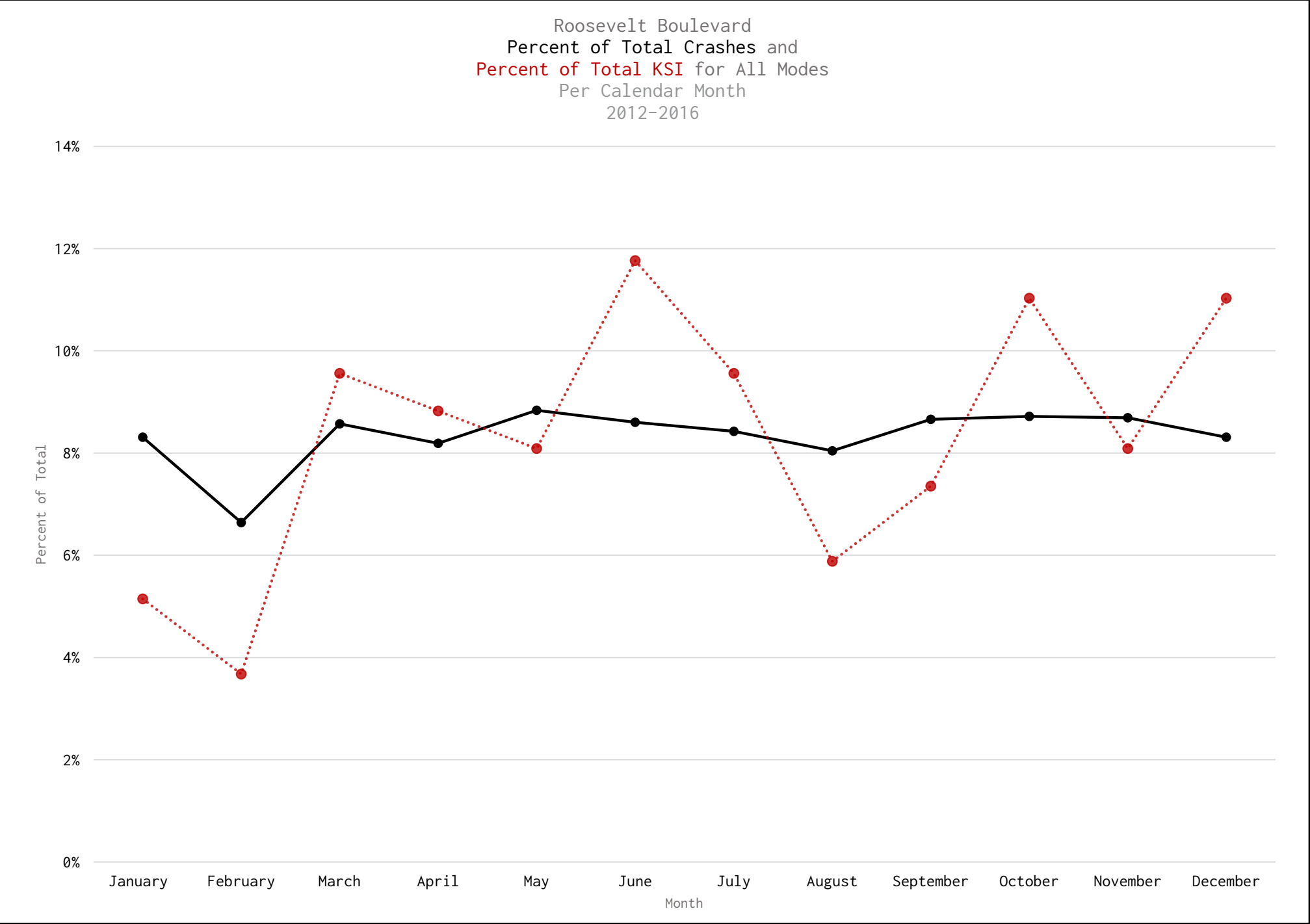
\* Since the lost quality of life figures, which are included in the above comprehensive costs calculations, do not represent real income not received nor expenses incurred, they should not be used to determine the pure economic impact of past crashes.

## Average Comprehensive Cost of KSI Crashes along Roosevelt Boulevard, 2016

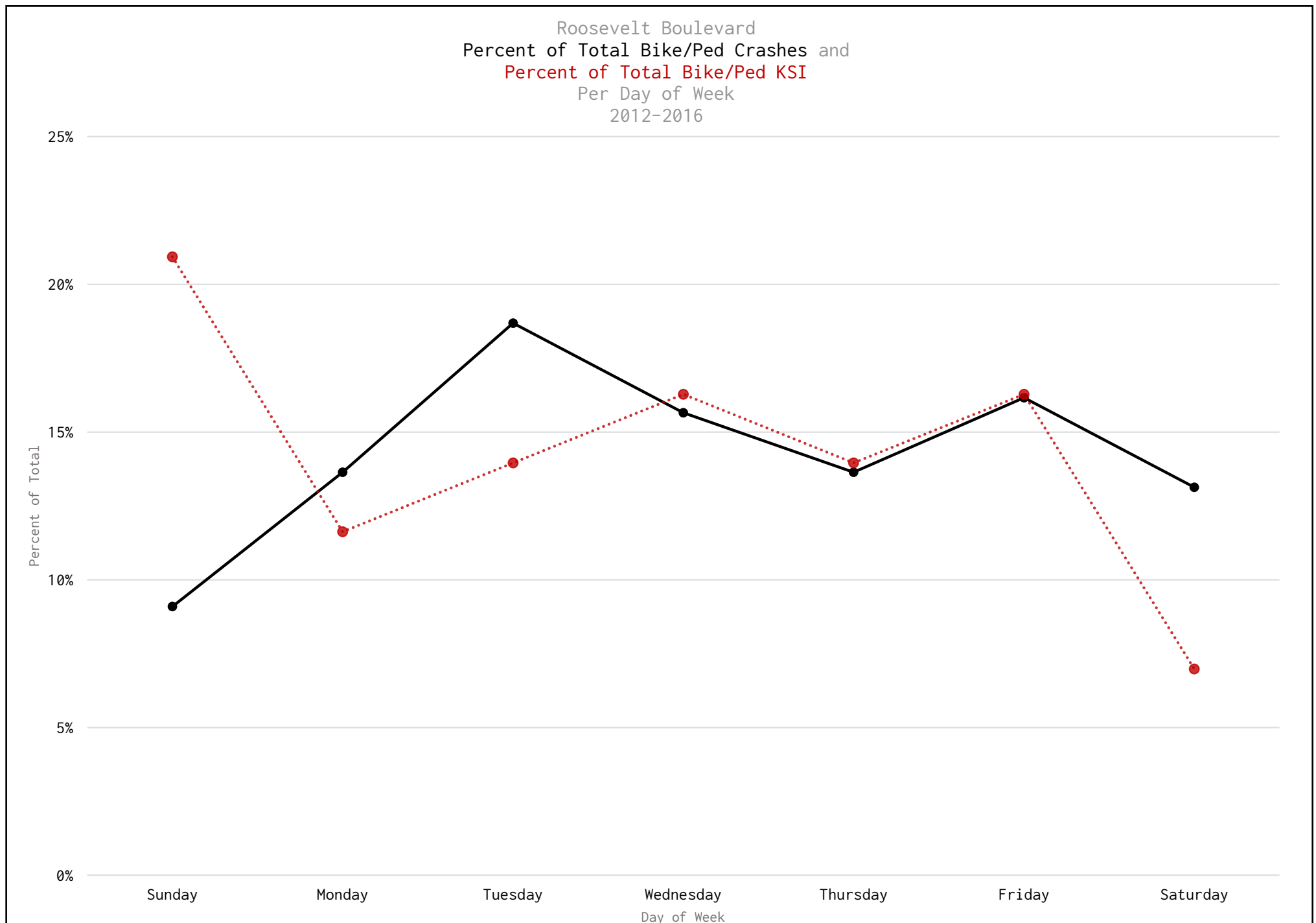
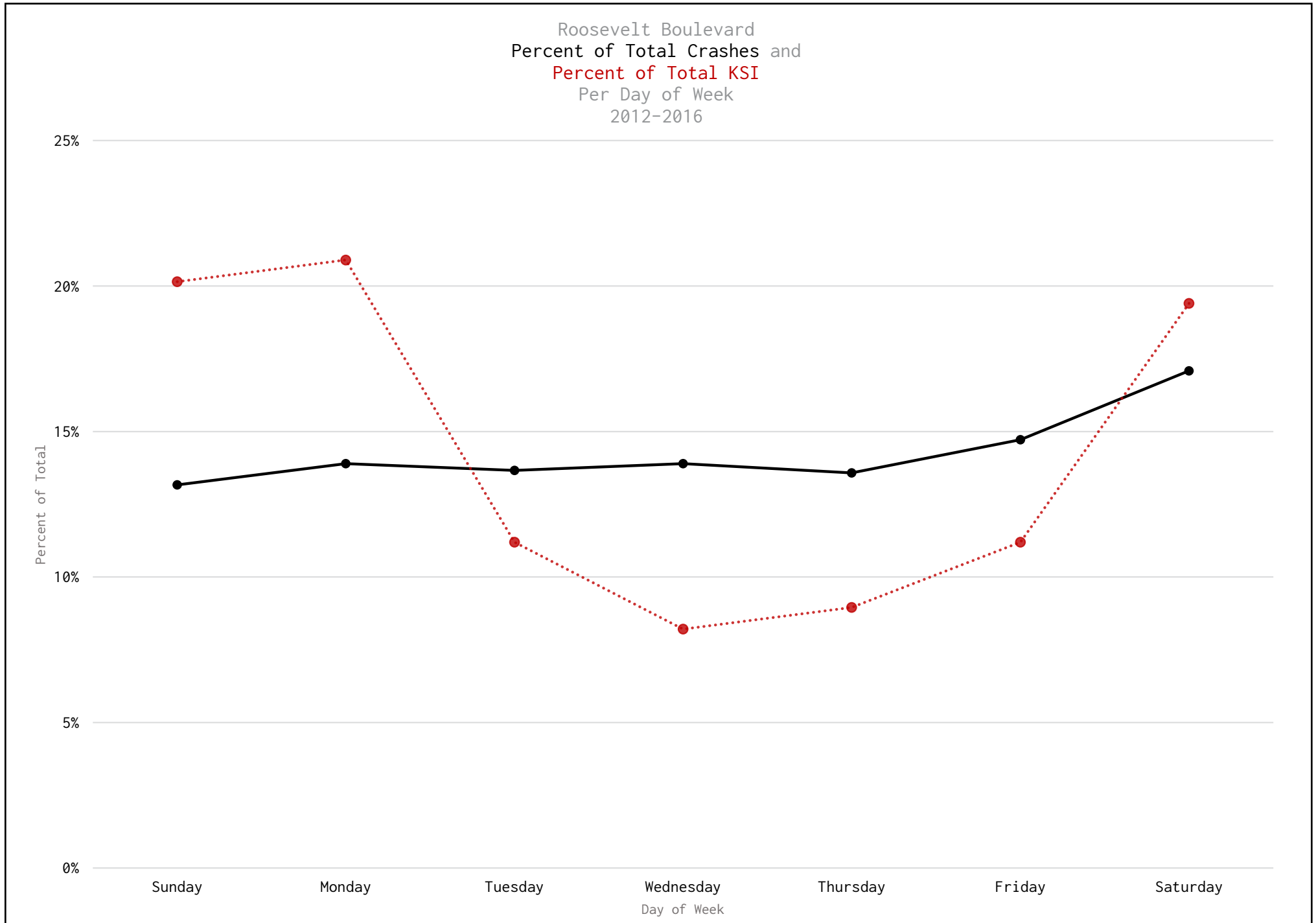
| Category               | Crashes | Persons or Vehicles | Cost              |
|------------------------|---------|---------------------|-------------------|
| Death (K)              | 14      | 16                  | \$ 161,312,000.00 |
| Disabling (A)          | 19      | 20                  | \$ 22,060,000.00  |
| Evident (B)            | -       | -                   | -                 |
| Possible (C)           | -       | -                   | -                 |
| No Injury observed (O) | -       | -                   | -                 |

|                                    |                          |
|------------------------------------|--------------------------|
| Roosevelt Boulevard KSI Cost 2016: | <b>\$ 183,372,000.00</b> |
|------------------------------------|--------------------------|

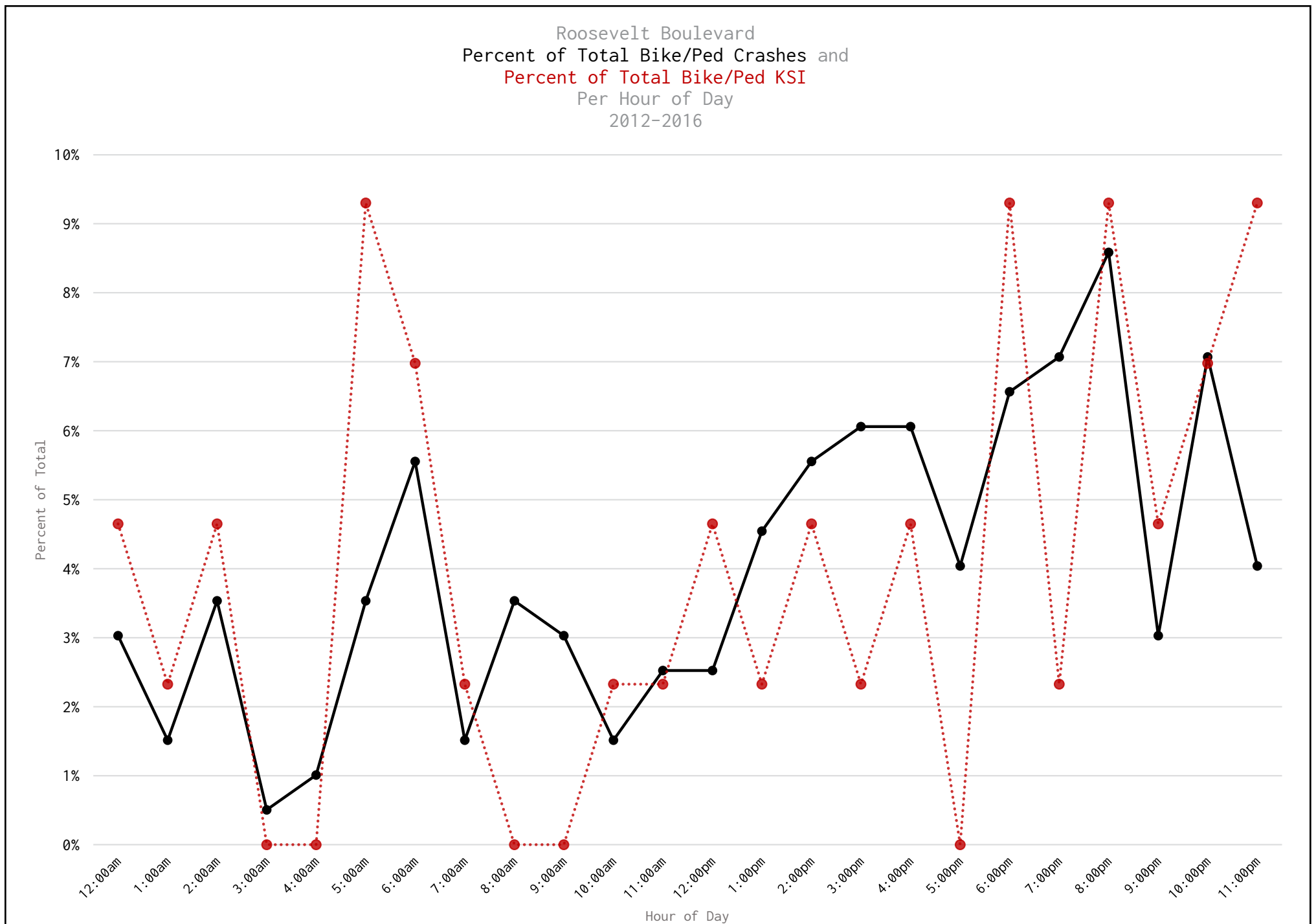
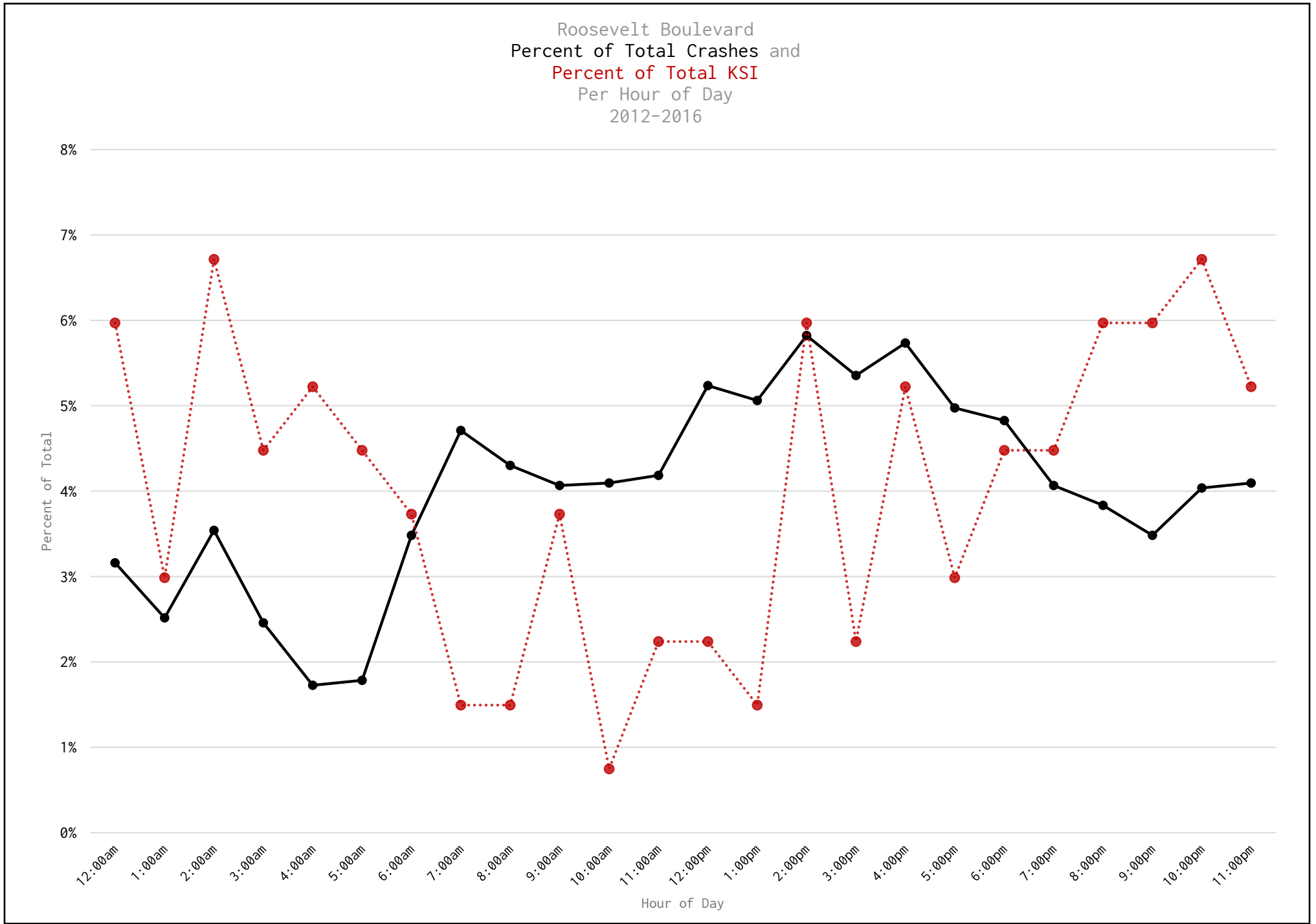
# Roosevelt Boulevard Crashes by Calendar Month: All Crashes and Bike/Ped Crashes wth KSI



# Roosevelt Boulevard Crashes by Day of Week: All Crashes and Bike/Ped Crashes



# Roosevelt Boulevard Crashes by Hour of Day: All Crashes and Bike/Ped Crashes with KSI



# Data Tables:

## Crashes by Calendar Month, Day of Week, & Hour of Day

### Crashes by Calendar Month

Full Crash Data  
2012-2016

| Month     | All Crashes | All Fatal | All Maj Injury | Ped Crash | Ped Fatality | Ped Maj Injury | Bike Crash | Bike Fatality | Bike Maj Injury |
|-----------|-------------|-----------|----------------|-----------|--------------|----------------|------------|---------------|-----------------|
| January   | 284         | 3         | 196            | 16        | 2            | 0              | 0          | 0             | 0               |
| February  | 227         | 3         | 162            | 16        | 2            | 2              | 0          | 0             | 0               |
| March     | 293         | 2         | 218            | 15        | 1            | 4              | 0          | 0             | 0               |
| April     | 280         | 2         | 219            | 14        | 0            | 2              | 0          | 0             | 0               |
| May       | 302         | 8         | 217            | 14        | 4            | 1              | 0          | 0             | 0               |
| June      | 294         | 3         | 235            | 12        | 2            | 1              | 0          | 0             | 0               |
| July      | 288         | 5         | 221            | 15        | 1            | 0              | 0          | 0             | 0               |
| August    | 275         | 4         | 210            | 13        | 2            | 1              | 0          | 0             | 0               |
| September | 296         | 7         | 220            | 14        | 1            | 0              | 0          | 0             | 0               |
| October   | 298         | 8         | 219            | 22        | 3            | 2              | 1          | 0             | 1               |
| November  | 297         | 5         | 232            | 25        | 3            | 0              | 0          | 0             | 0               |
| December  | 284         | 6         | 199            | 20        | 3            | 5              | 0          | 0             | 0               |
| Total     | 3418        | 56        | 2548           | 196       | 24           | 18             | 1          | 0             | 1               |

### Crashes by Day of Week

Full Crash Data  
2012-2016

| Day       | All Crashes | Ped Crash | Ped Fatality | Ped Maj Injury | Bike Fatality | Bike Maj Injury | All KSI | Ped/Bike KSI |
|-----------|-------------|-----------|--------------|----------------|---------------|-----------------|---------|--------------|
| Sunday    | 450         | 18        | 4            | 14             | 0             | 1               | 27      | 9            |
| Monday    | 475         | 27        | 4            | 23             | 0             | 0               | 28      | 5            |
| Tuesday   | 467         | 37        | 2            | 35             | 0             | 0               | 15      | 6            |
| Wednesday | 475         | 31        | 2            | 30             | 0             | 0               | 11      | 7            |
| Thursday  | 464         | 27        | 5            | 22             | 0             | 0               | 12      | 6            |
| Friday    | 503         | 32        | 4            | 28             | 0             | 0               | 15      | 7            |
| Saturday  | 584         | 26        | 3            | 24             | 0             | 0               | 26      | 3            |
| Total     | 3418        | 198       | 24           | 176            | 0             | 1               | 134     | 43           |

### Crashes by Hour of Day

Full Crash Data  
2012-2016

| Hour    | All Crashes | All Fatality | All Maj Injury | Ped Crashes | Ped Fatality | Ped Maj Injury | Bike Crashes | Bike Fatality | Bike Maj Injury |
|---------|-------------|--------------|----------------|-------------|--------------|----------------|--------------|---------------|-----------------|
| 12:00am | 108         | 3            | 5              | 6           | 1            | 1              | 0            | 0             | 0               |
| 1:00am  | 86          | 2            | 3              | 3           | 1            | 0              | 0            | 0             | 0               |
| 2:00am  | 121         | 5            | 6              | 7           | 1            | 1              | 0            | 0             | 0               |
| 3:00am  | 84          | 1            | 6              | 1           | 0            | 0              | 0            | 0             | 0               |
| 4:00am  | 59          | 5            | 2              | 2           | 0            | 0              | 0            | 0             | 0               |
| 5:00am  | 61          | 5            | 1              | 7           | 4            | 0              | 0            | 0             | 0               |
| 6:00am  | 119         | 1            | 4              | 11          | 1            | 2              | 0            | 0             | 0               |
| 7:00am  | 161         | 0            | 2              | 3           | 1            | 1              | 0            | 0             | 0               |
| 8:00am  | 147         | 1            | 1              | 7           | 0            | 0              | 0            | 0             | 0               |
| 9:00am  | 139         | 1            | 4              | 6           | 0            | 0              | 0            | 0             | 0               |
| 10:00am | 140         | 0            | 1              | 3           | 0            | 1              | 0            | 0             | 0               |
| 11:00am | 143         | 1            | 2              | 5           | 1            | 0              | 0            | 0             | 0               |
| 12:00pm | 179         | 0            | 3              | 5           | 0            | 2              | 0            | 0             | 0               |
| 1:00pm  | 173         | 0            | 2              | 9           | 0            | 0              | 1            | 0             | 1               |
| 2:00pm  | 199         | 1            | 7              | 11          | 1            | 1              | 0            | 0             | 0               |
| 3:00pm  | 183         | 0            | 3              | 12          | 0            | 1              | 0            | 0             | 0               |
| 4:00pm  | 196         | 5            | 2              | 12          | 2            | 0              | 0            | 0             | 0               |
| 5:00pm  | 170         | 0            | 4              | 8           | 0            | 0              | 0            | 0             | 0               |
| 6:00pm  | 165         | 2            | 5              | 13          | 1            | 3              | 0            | 0             | 0               |
| 7:00pm  | 139         | 2            | 4              | 14          | 1            | 0              | 0            | 0             | 0               |
| 8:00pm  | 131         | 5            | 3              | 17          | 2            | 2              | 0            | 0             | 0               |
| 9:00pm  | 119         | 3            | 5              | 6           | 1            | 1              | 0            | 0             | 0               |
| 10:00pm | 138         | 8            | 2              | 14          | 3            | 0              | 0            | 0             | 0               |
| 11:00pm | 140         | 5            | 2              | 8           | 4            | 0              | 0            | 0             | 0               |
| N/A     | 118         | 0            | 5              | 8           | 0            | 2              | 0            | 0             | 0               |
| Total   | 3418        | 56           | 84             | 198         | 25           | 18             | 1            | 0             | 1               |

# Data Tables: Intersection Type, Road Condition, Illumination & Addtl.

## Intersection Type

Full Crash Data  
2012-2016

|                                    | All Crashes | Bike/Ped Crashes | All KSI    | Bike/Ped KSI |
|------------------------------------|-------------|------------------|------------|--------------|
| 00 - Mid-block                     | 1362        | 90               | 73         | 19           |
| 01 - Four way intersection         | 1611        | 117              | 51         | 19           |
| 02 - "T" intersection              | 211         | 22               | 7          | 5            |
| 03 - "Y" intersection              | 51          | 5                | 1          | 0            |
| 04 - Traffic circle or Round About | 28          | 3                | 1          | 0            |
| 05 - Multi-leg intersection        | 60          | 1                | 1          | 0            |
| 06 - On ramp                       | 64          | 0                | 0          | 0            |
| 07 - Off ramp                      | 30          | 0                | 0          | 0            |
| 08 - Crossover                     | 0           | 0                | 0          | 0            |
| 09 - Railroad crossing             | 0           | 0                | 0          | 0            |
| 10 - Other                         | 1           | 0                | 0          | 0            |
| 99 - Unknown (expired)             | 0           | 0                | 0          | 0            |
| <b>Total</b>                       | <b>3418</b> | <b>238</b>       | <b>134</b> | <b>43</b>    |

## Road Condition

Full Crash Data  
2012 - 2016

|                                     | All Crashes | Bike/Ped Crashes | All KSI    | Bike/Ped KSI |
|-------------------------------------|-------------|------------------|------------|--------------|
| 0 - Dry                             | 2852        | 162              | 111        | 34           |
| 1 - Wet                             | 485         | 36               | 23         | 9            |
| 2 - Sand/ mud/ dirt/ oil/ or gravel | 0           | 0                | 0          | 0            |
| 3 - Snow covered                    | 26          | 1                | 0          | 0            |
| 4 - Slush                           | 15          | 0                | 0          | 0            |
| 5 - Ice                             | 18          | 0                | 0          | 0            |
| 6 - Ice Patches                     | 10          | 0                | 0          | 0            |
| 7 - Water - standing or moving      | 3           | 0                | 0          | 0            |
| 8 - Other                           | 8           | 0                | 0          | 0            |
| 9 - Unknown (expired)               | 1           | 0                | 0          | 0            |
| <b>Total</b>                        | <b>3418</b> | <b>199</b>       | <b>134</b> | <b>43</b>    |
| Total w/o Dry                       | 566         | 37               | 23         | 9            |

## Road Illumination

Full Crash Data  
2012 - 2016

|                                     | All Crashes | Bike/Ped Crashes | All KSI    | Bike/Ped KSI |
|-------------------------------------|-------------|------------------|------------|--------------|
| 1 - Daylight                        | 2014        | 111              | 44         | 13           |
| 2 - Dark - no street lights         | 64          | 9                | 4          | 2            |
| 3 - Dark - street lights            | 1243        | 109              | 82         | 25           |
| 4 - Dusk                            | 46          | 3                | 2          | 1            |
| 5 - Dawn                            | 31          | 4                | 2          | 2            |
| 6 - Dark - unknown roadway lighting | 13          | 1                | 0          | 0            |
| 8 - Other                           | 5           | 1                | 0          | 0            |
| 9 - Unknown (expired)               | 0           | 0                | 0          | 0            |
| <b>Total</b>                        | <b>3416</b> | <b>238</b>       | <b>134</b> | <b>43</b>    |

## Additional Metrics

Full Crash Data  
2012 - 2016

|                             | All Crashes | Bike/Ped Crashes | All KSI       | Bike/Ped KSI |
|-----------------------------|-------------|------------------|---------------|--------------|
| Commercial Vehicle Involved | 3193        | 4                | 8             | 0            |
| Left Turn Movement          | 197         | 10               | 3 (85 <Null>) | <Null>       |
| Right Turn Movement         | 68          | 9                | 1 (85 <Null>) | <Null>       |
| Speeding Indicator          | 187         | 6                | 23            | 3            |
| Speeding Related Indicator  | 572         | 13               | 34            | 5            |
| School Bus Indicator        | 20          | 0                | 2             | 0            |

# Roosevelt Boulevard: Target Areas of High KSI Across All Modes 2012-2016

## Target Area Details:

- N 9th Street = Roosevelt Boulevard between N 8th and Warnock
- Banks/5th = Roosevelt Boulevard between Marshall and Palethorp
- C Street = Roosevelt Boulevard between Ormes and Langdon
- Whitaker = Roosevelt Boulevard between F Street and Langdon
- Adams = Roosevelt Boulevard between Langdon and Fillmore
- Oxford Circle = Roosevelt Boulevard between Godfrey and Large
- Levick/Bustleton = Roosevelt Boulevard between Lardner and Elbridge
- Tyson/Harbison = Roosevelt Boulevard between Bradford Terrance and Friendship
- Ryan/Revere = Roosevelt Boulevard between Sandyford and Stanwood
- Wlesh = Roosevelt Boulevard between Woodward and Goodnaw
- Southampton = Roosevelt Boulevard between Hornig and Northgate Drive
- Old Lincoln Highway = Roosevelt Boulevard between Northgate Drive and Old Trevoze

