

# Rate Group 723 – Industrial, Commercial & Institutional Construction

## Member Firm Injury Performance

Based on the March 2020 Snapshot

| Overall Injury Performance in Rate Group 723         |         |        |          |
|--|---------|--------|----------|
|  | 2019    | 2018   | % Change |
| <b>Total Injury Rate (LTIs+NLTIs+Tr Fatalities)</b>  | 3.82    | 3.97   | -3.8%    |
| <b>Total Injury Count (LTIs+NLTIs+Tr Fatalities)</b> | 1,837   | 1,809  | 1.5%     |
| <b>Traumatic Fatalities Count</b>                    | Allowed | 2      | 1        |
|  | Pending | 0      | 0        |
| <b>LTI Rate</b>                                      | 0.65    | 0.74   | -12.1%   |
| <b>LTI Count</b>                                     | 311     | 335    | -7.2%    |
| <b>NLTI Count</b>                                    | 1,524   | 1,473  | 3.5%     |
| <b>FTE</b>   | 48,122  | 45,566 | 5.6%     |

| Lost Time Injury Profile. Rate Group 723 |       |      |       |      |          |        |
|--|-------|------|-------|------|----------|--------|
|  | 2019  |      | 2018  |      | % Change |        |
|  | Count | Rate | Count | Rate | Count    | Rate   |
| <b>MSDs</b>                              | 92    | 0.19 | 103   | 0.23 | -10.7%   | -15.4% |
| <b>Falls</b>                             | 81    | 0.17 | 82    | 0.18 | -1.2%    | -6.5%  |
| <b>Machinery</b>                         | 10    | 0.02 | 12    | 0.03 | -16.7%   | -21.1% |
| <b>MVIs</b>                              | 1     | 0.00 | 5     | 0.01 | -80.0%   | -81.1% |
| <b>Critical Injuries</b>                 | 24    | 0.05 | 35    | 0.08 | -31.4%   | -35.1% |
| <b>New Worker</b>                        | 29    | 0.06 | 35    | 0.08 | -17.1%   | -21.5% |
| <b>Young Worker</b>                      | 44    | 0.09 | 54    | 0.12 | -18.5%   | -22.8% |

| High Impact Claims. Rate Group 723 |       |      |       |      |          |        |
|------------------------------------|-------|------|-------|------|----------|--------|
|                                    | 2019  |      | 2018  |      | % Change |        |
|                                    | Count | Rate | Count | Rate | Count    | Rate   |
| <b>Lower Back</b>                  | 49    | 0.10 | 53    | 0.12 | -7.5%    | -12.5% |
| <b>Shoulder</b>                    | 16    | 0.03 | 14    | 0.03 | 14.3%    | 8.2%   |
| <b>Fractures</b>                   | 40    | 0.08 | 38    | 0.08 | 5.3%     | -0.3%  |
| <b>Total HI Claims</b>             | 104   | 0.22 | 106   | 0.23 | -1.9%    | -7.1%  |

## Definitions:

**MSD (Musculoskeletal Disorders)** – Based on the approved grouping of codes presented to OHSCO in March 2005, which includes the following: (Nature of Injury Category Code xx and Nature of Injury Code xxxxx) equals 021, 029, 082, 09720, 09730, 12410, 153, 170, 173, 174, 179, 41200, 41280, 41290, 41480, 41490 and Event (Type of Accident Category) equals (20, 21, 22, 23, 25, 26, 27, 29).

**Falls** – Event (Type of Accident Category) equals “Falls” (1).

**Machinery** – Event (Type of Accident Category) equals “Contact with Objects or Equipment” (0) and Source (Accident Source Category) equals “Machinery” (3).

**MVI (Motor Vehicle Incident)** – Event (Type of Accident Category) equals “Highway Accidents” (41).

**Critical Injury** – The count of Allowed Critical Injuries with an incident date in the calendar year indicated. Critical Injuries are based on the Critical Injury Indicator in EIW and includes the following: Places Life in Jeopardy (Traumatic injuries to spinal cord, Multiple traumatic injuries, Gunshot wounds, Drowning, Electrocutation, Internal injuries to organs, Other poisonings and toxic effects, Animal or insect bites), Fracture of a Leg or Arm but not a Finger or Toe (excludes wrist and ankle), Amputation of a Leg, Arm, Hand or Foot but not a Finger or Toe, Produces Unconsciousness (Concussions, Cerebral Haemorrhages, Intracranial injuries), The Loss of Sight in an Eye (Blindness, Enucleations), Burns to a Major Portion of the Body (First-degree burns and multiple burns).

**New Worker** – The Count of Allowed LTIs by New Worker for LTIs with an incident date in the calendar year indicated. A New Worker is defined as having worked 28 days or less with same employer (Incident Date – Hire Date).

**Young Worker** – The Count of Allowed LTIs by Worker of age less than 25 years old at an incident date.

**Contact** – Event (Type of Accident Category) equals “Contact with Objects or Equipment” (0).

**High Impact Claims - Lower Back** – Part of Body Code equals 23100, 23300, 23390, 23400, 23901.

**High Impact Claims - Shoulder** – Part of Body Code equals 21000.

**High Impact Claims - Fracture** – Nature of Injury Code equals 01200 and not Part of Body Code equals 21000, 23100, 23300, 23390, 23400, 23901.

*Please note that Priority Hazards (MSD, Falls, Machinery, MVI) are mutually exclusive where as Critical Injuries, New Worker LTIs, Young Worker LTIs, High Impact LTIs and Contact LTIs are NOT mutually exclusive.*

# Rate Group 723 – Industrial, Commercial & Institutional Construction

## Member Injury Performance Analysis for 2015-2019

Based on March 2020 Snapshot

| Overall Injury Performance<br>Rate Group 723 |       |      |                      |          |      |        |      |             |
|--|-------|------|----------------------|----------|------|--------|------|-------------|
| Year   | LTIs  |      |                      | Non LTIs |      | Total* |      | Derived FTE |
|  | Count | Rate | Traumatic Fatalities | Count    | Rate | Count  | Rate |             |
| <b>2015</b>                                  | 348   | 0.77 | 0                    | 1,505    | 3.32 | 1,853  | 4.09 | 45,339      |
| <b>2016</b>                                  | 336   | 0.77 | 0                    | 1,511    | 3.48 | 1,847  | 4.25 | 43,417      |
| <b>2017</b>                                  | 340   | 0.75 | 2                    | 1,481    | 3.27 | 1,823  | 4.02 | 45,319      |
| <b>2018</b>                                  | 335   | 0.74 | 1                    | 1,473    | 3.23 | 1,809  | 3.97 | 45,566      |
| <b>2019</b>                                  | 311   | 0.65 | 2                    | 1,524    | 3.17 | 1,837  | 3.82 | 48,122      |

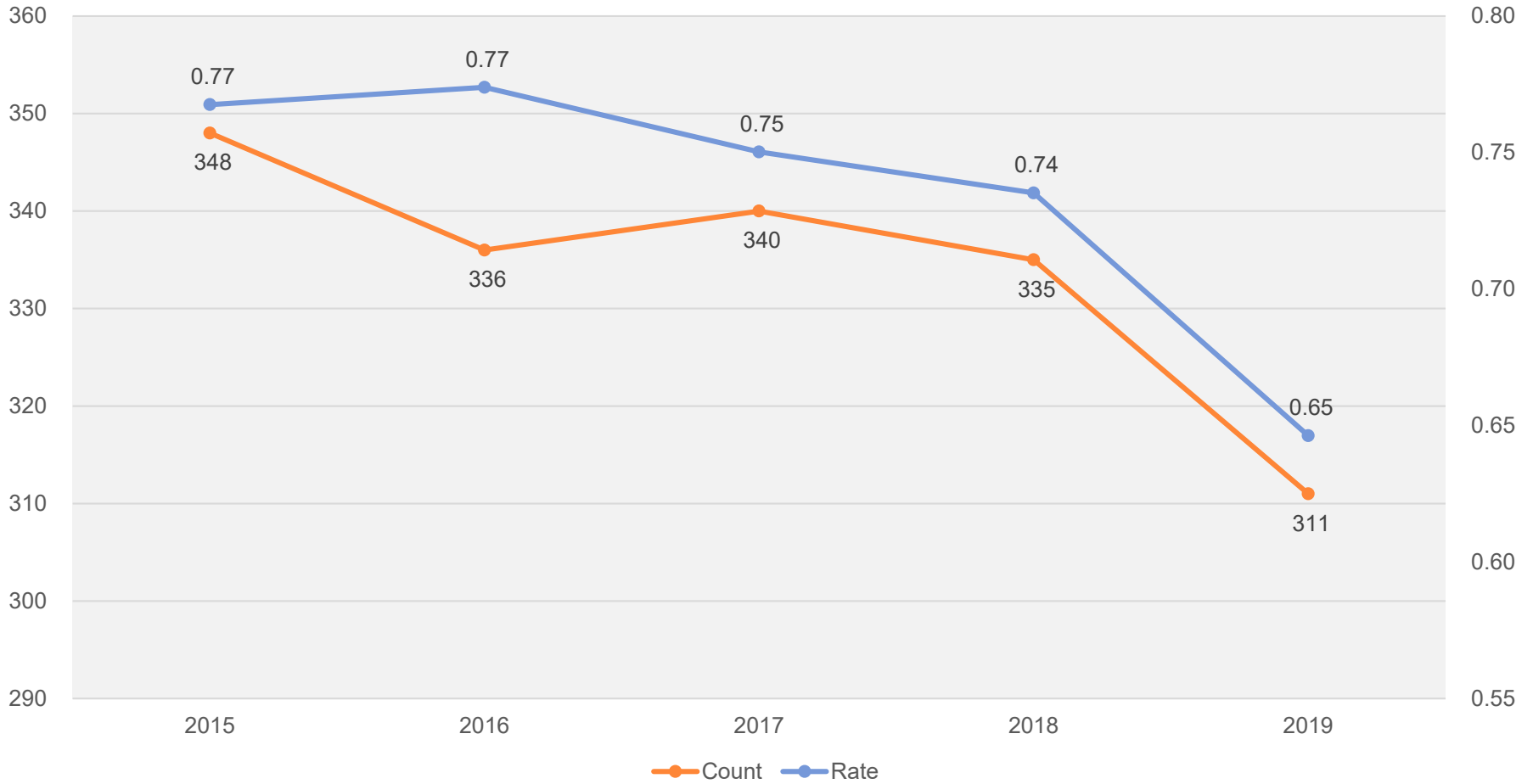
\*Total Injury Count = Traumatic Fatality Count + LTI Count + Non LTI Count

| Lost-time Injury Profile<br>Rate Group 723 |       |      |       |      |           |      |       |      |                   |      |            |      |              |      |
|--|-------|------|-------|------|-----------|------|-------|------|-------------------|------|------------|------|--------------|------|
| Year                                       | MSDs  |      | Falls |      | Machinery |      | MVIs  |      | Critical Injuries |      | New Worker |      | Young Worker |      |
|  | Count | Rate | Count | Rate | Count     | Rate | Count | Rate | Count             | Rate | Count      | Rate | Count        | Rate |
| <b>2015</b>                                | 96    | 0.21 | 89    | 0.20 | 15        | 0.03 | 6     | 0.01 | 26                | 0.06 | 53         | 0.12 | 46           | 0.10 |
| <b>2016</b>                                | 110   | 0.25 | 84    | 0.19 | 9         | 0.02 | 3     | 0.01 | 36                | 0.08 | 47         | 0.11 | 67           | 0.15 |
| <b>2017</b>                                | 119   | 0.26 | 70    | 0.15 | 11        | 0.02 | 7     | 0.02 | 20                | 0.04 | 27         | 0.06 | 52           | 0.11 |
| <b>2018</b>                                | 103   | 0.23 | 82    | 0.18 | 12        | 0.03 | 5     | 0.01 | 35                | 0.08 | 35         | 0.08 | 54           | 0.12 |
| <b>2019</b>                                | 92    | 0.19 | 81    | 0.17 | 10        | 0.02 | 1     | 0.00 | 24                | 0.05 | 29         | 0.06 | 44           | 0.09 |

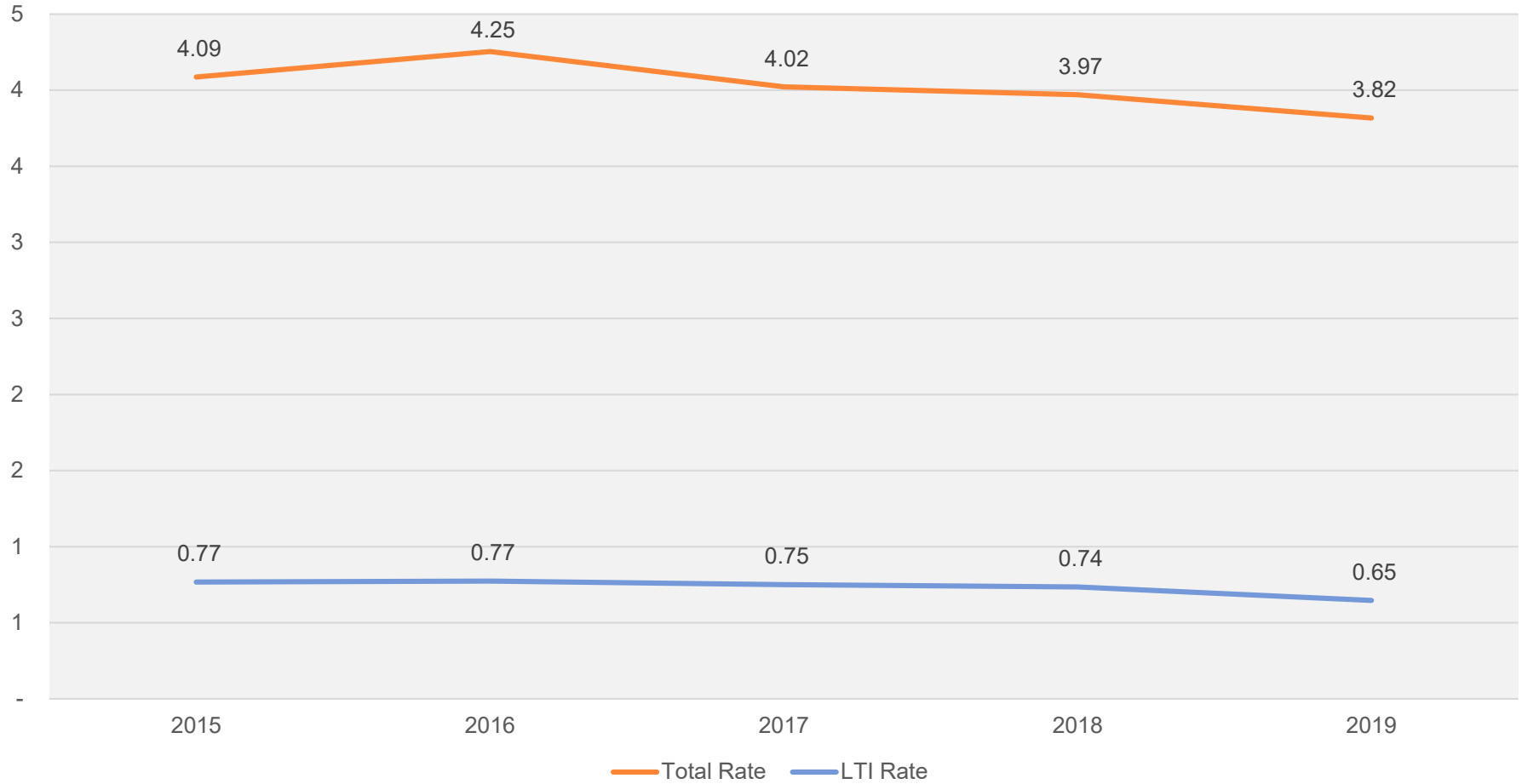
High Impact Lost-time Injury Profile  
Rate Group 723

| Year        | Lower Back |      | Shoulder |      | Fracture |      | Total |      |
|-------------|------------|------|----------|------|----------|------|-------|------|
|             | Count      | Rate | Count    | Rate | Count    | Rate | Count | Rate |
| <b>2015</b> | 51         | 0.11 | 23       | 0.05 | 54       | 0.12 | 142   | 0.31 |
| <b>2016</b> | 56         | 0.13 | 24       | 0.06 | 63       | 0.15 | 136   | 0.31 |
| <b>2017</b> | 46         | 0.10 | 23       | 0.05 | 43       | 0.09 | 122   | 0.27 |
| <b>2018</b> | 53         | 0.12 | 14       | 0.03 | 38       | 0.08 | 106   | 0.23 |
| <b>2019</b> | 49         | 0.10 | 16       | 0.03 | 40       | 0.08 | 104   | 0.22 |

### Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION LTI Count and Rate for 2015-2019 based on March 2020 snapshot

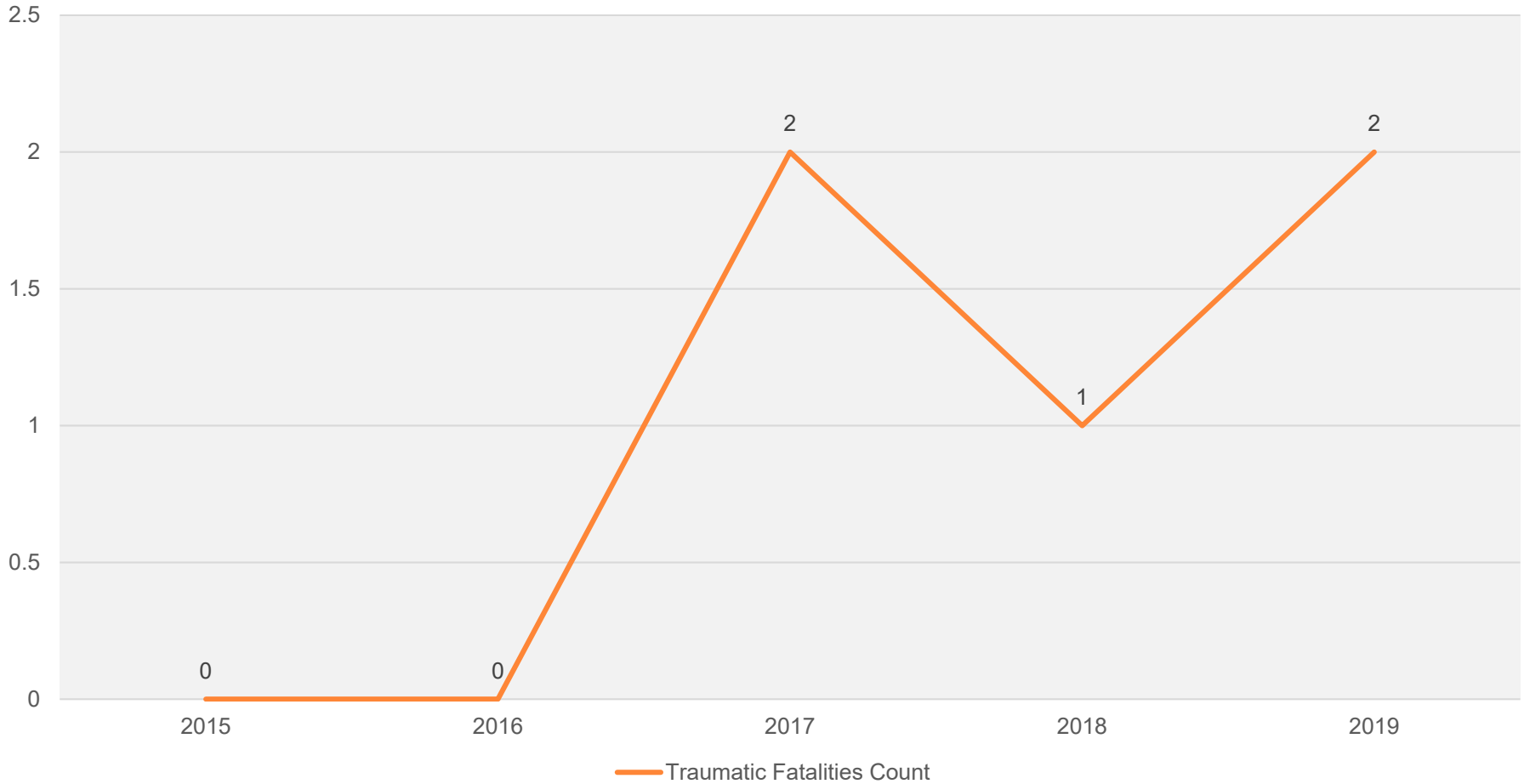


### Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION LTI Rate and Total Rate for 2015-2019 based on March 2020 snapshot

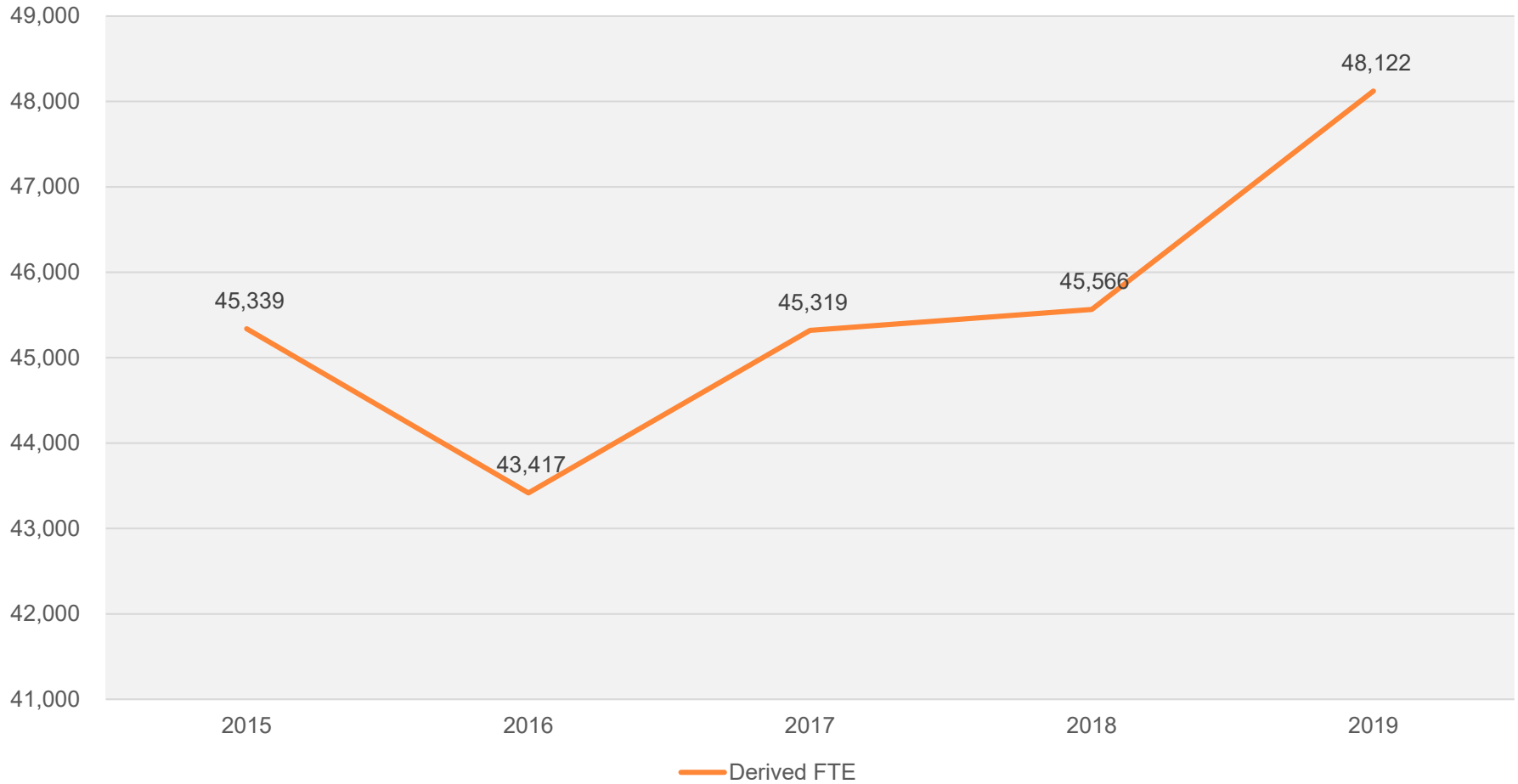




### Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION Traumatic Fatalities for 2015-2019 based on March 2020 snapshot



### Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION Derived FTE for 2015-2019 based on March 2020 snapshot

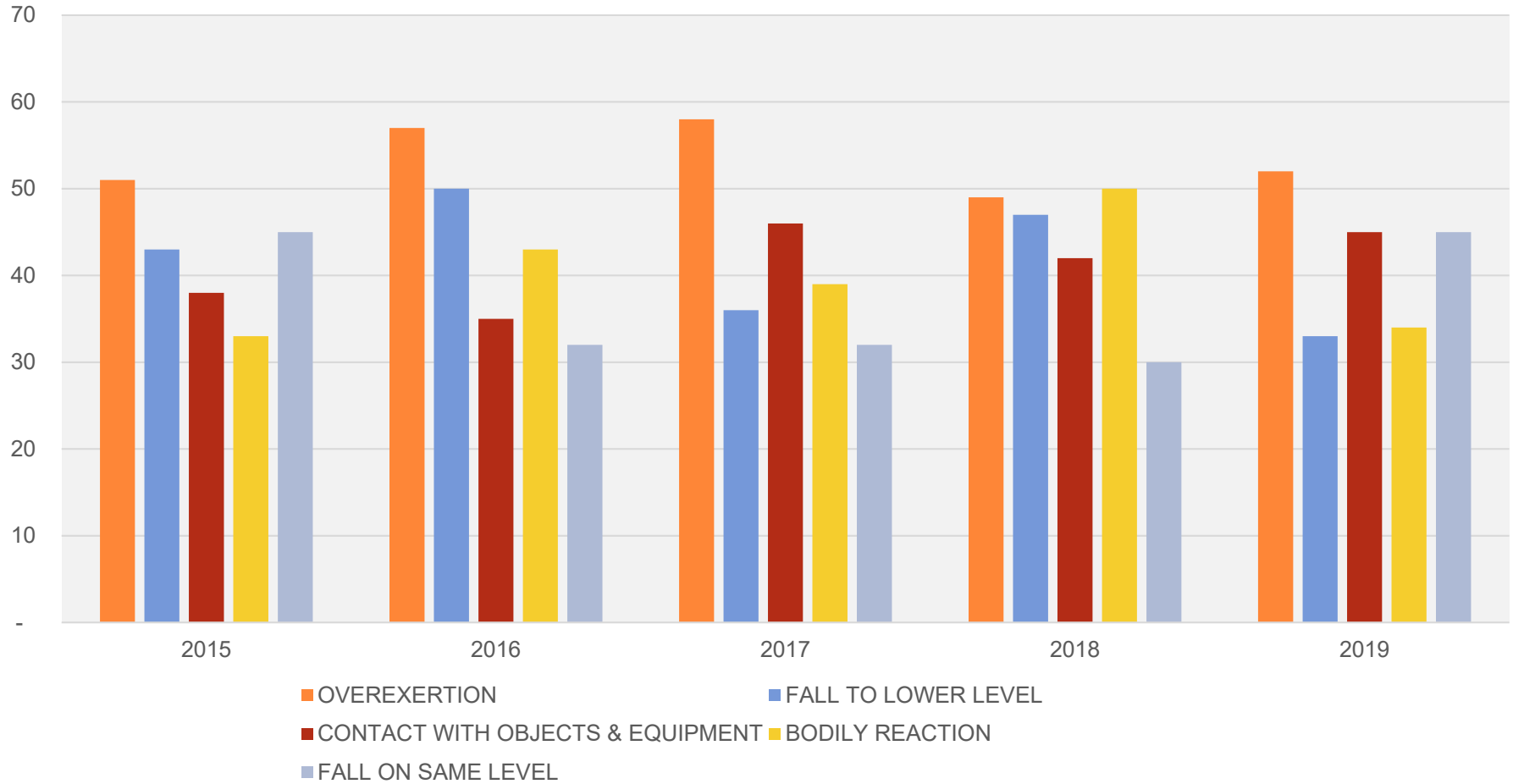


**Top 5 Most Common Incident Types  
Rate Group 723**

| Year        | OVEREXERTION |            | FALL TO LOWER LEVEL |            | CONTACT WITH OBJECTS & EQUIPMENT |            | BODILY REACTION |            | FALL ON SAME LEVEL |            | Total for Top 5 |            |
|-------------|--------------|------------|---------------------|------------|----------------------------------|------------|-----------------|------------|--------------------|------------|-----------------|------------|
|             | Count        | % of Total | Count               | % of Total | Count                            | % of Total | Count           | % of Total | Count              | % of Total | Count           | % of Total |
| <b>2015</b> | 51           | 14.5%      | 43                  | 12.3%      | 38                               | 10.8%      | 33              | 9.4%       | 45                 | 12.8%      | 210             | 59.8%      |
| <b>2016</b> | 57           | 16.7%      | 50                  | 14.6%      | 35                               | 10.2%      | 43              | 12.6%      | 32                 | 9.4%       | 217             | 63.5%      |
| <b>2017</b> | 58           | 17.0%      | 36                  | 10.5%      | 46                               | 13.5%      | 39              | 11.4%      | 32                 | 9.4%       | 211             | 61.7%      |
| <b>2018</b> | 49           | 14.6%      | 47                  | 14.0%      | 42                               | 12.5%      | 50              | 14.9%      | 30                 | 8.9%       | 218             | 64.9%      |
| <b>2019</b> | 52           | 16.6%      | 33                  | 10.5%      | 45                               | 14.4%      | 34              | 10.9%      | 45                 | 14.4%      | 209             | 66.8%      |

## Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION

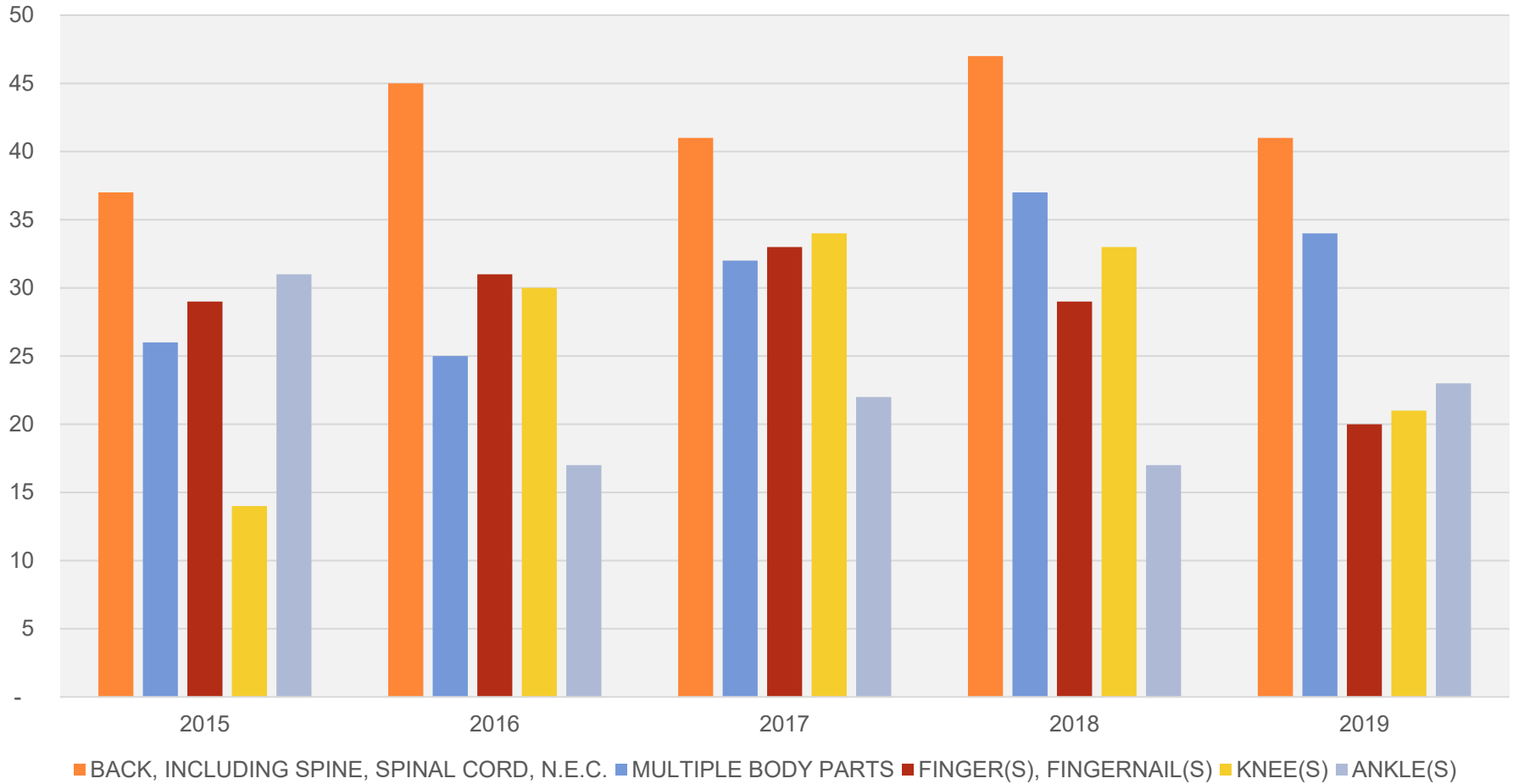
### Top 5 Incident Types for 2015-2019 based on March 2020 snapshot



**Top 5 Most Common Parts of Body Injured  
Rate Group 723**

| Year        | BACK, INCLUDING SPINE, SPINAL CORD, N.E.C. |            | MULTIPLE BODY PARTS |            | FINGER(S), FINGERNAIL(S) |            | KNEE(S) |            | ANKLE(S) |            | Total for Top 5 |            |
|-------------|--|------------|---------------------|------------|--------------------------|------------|---------|------------|----------|------------|-----------------|------------|
|             | Count                                      | % of Total | Count               | % of Total | Count                    | % of Total | Count   | % of Total | Count    | % of Total | Count           | % of Total |
| <b>2015</b> | 37   | 10.5%      | 26                  | 7.4%       | 29                       | 8.3%       | 14      | 4.0%       | 31       | 8.8%       | 137             | 39.0%      |
| <b>2016</b> | 45   | 13.2%      | 25                  | 7.3%       | 31                       | 9.1%       | 30      | 8.8%       | 17       | 5.0%       | 148             | 43.3%      |
| <b>2017</b> | 41   | 12.0%      | 32                  | 9.4%       | 33                       | 9.6%       | 34      | 9.9%       | 22       | 6.4%       | 162             | 47.4%      |
| <b>2018</b> | 47   | 14.0%      | 37                  | 11.0%      | 29                       | 8.6%       | 33      | 9.8%       | 17       | 5.1%       | 163             | 48.5%      |
| <b>2019</b> | 41   | 13.1%      | 34                  | 10.9%      | 20                       | 6.4%       | 21      | 6.7%       | 23       | 7.3%       | 139             | 44.4%      |

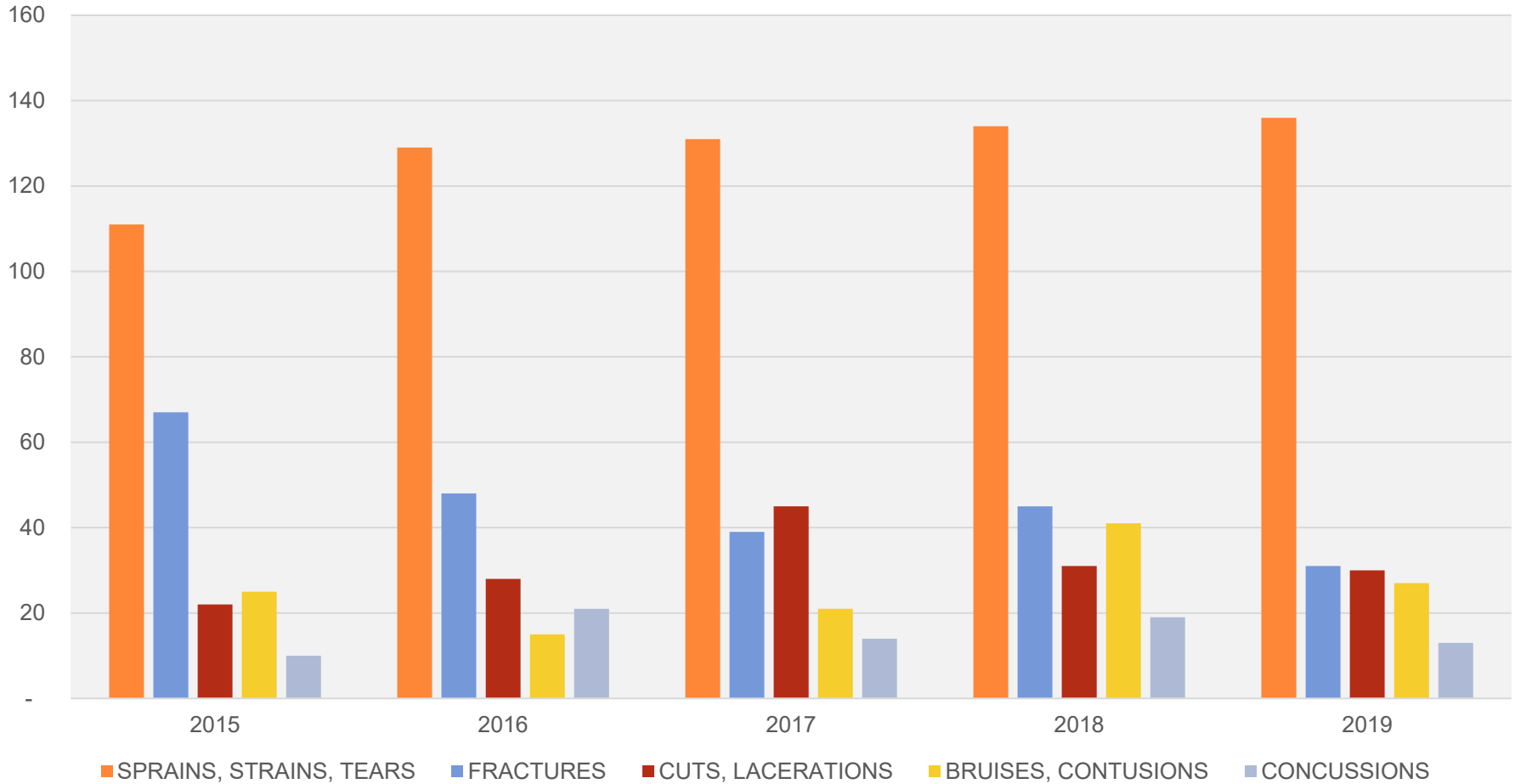
## Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION Top 5 Parts of Body Injured for 2015-2019 based on March 2020 snapshot



**Top 5 Most Common Nature of Injury Categories  
Rate Group 723**

| Year        | SPRAINS,<br>STRAINS, TEARS |               | FRACTURES |               | CUTS,<br>LACERATIONS |               | BRUISES,<br>CONTUSIONS |               | CONCUSSIONS |               | Total for Top 5 |               |
|-------------|----------------------------|---------------|-----------|---------------|----------------------|---------------|------------------------|---------------|-------------|---------------|-----------------|---------------|
|             | Count                      | % of<br>Total | Count     | % of<br>Total | Count                | % of<br>Total | Count                  | % of<br>Total | Count       | % of<br>Total | Count           | % of<br>Total |
| <b>2015</b> | 111                        | 31.6%         | 67        | 19.1%         | 22                   | 6.3%          | 25                     | 7.1%          | 10          | 2.8%          | 235             | 67.0%         |
| <b>2016</b> | 129                        | 37.7%         | 48        | 14.0%         | 28                   | 8.2%          | 15                     | 4.4%          | 21          | 6.1%          | 241             | 70.5%         |
| <b>2017</b> | 131                        | 38.3%         | 39        | 11.4%         | 45                   | 13.2%         | 21                     | 6.1%          | 14          | 4.1%          | 250             | 73.1%         |
| <b>2018</b> | 134                        | 39.9%         | 45        | 13.4%         | 31                   | 9.2%          | 41                     | 12.2%         | 19          | 5.7%          | 270             | 80.4%         |
| <b>2019</b> | 136                        | 43.5%         | 31        | 9.9%          | 30                   | 9.6%          | 27                     | 8.6%          | 13          | 4.2%          | 237             | 75.7%         |

### Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION Top 5 Nature of Injury Categories for 2015-2019 based on March 2020 snapshot

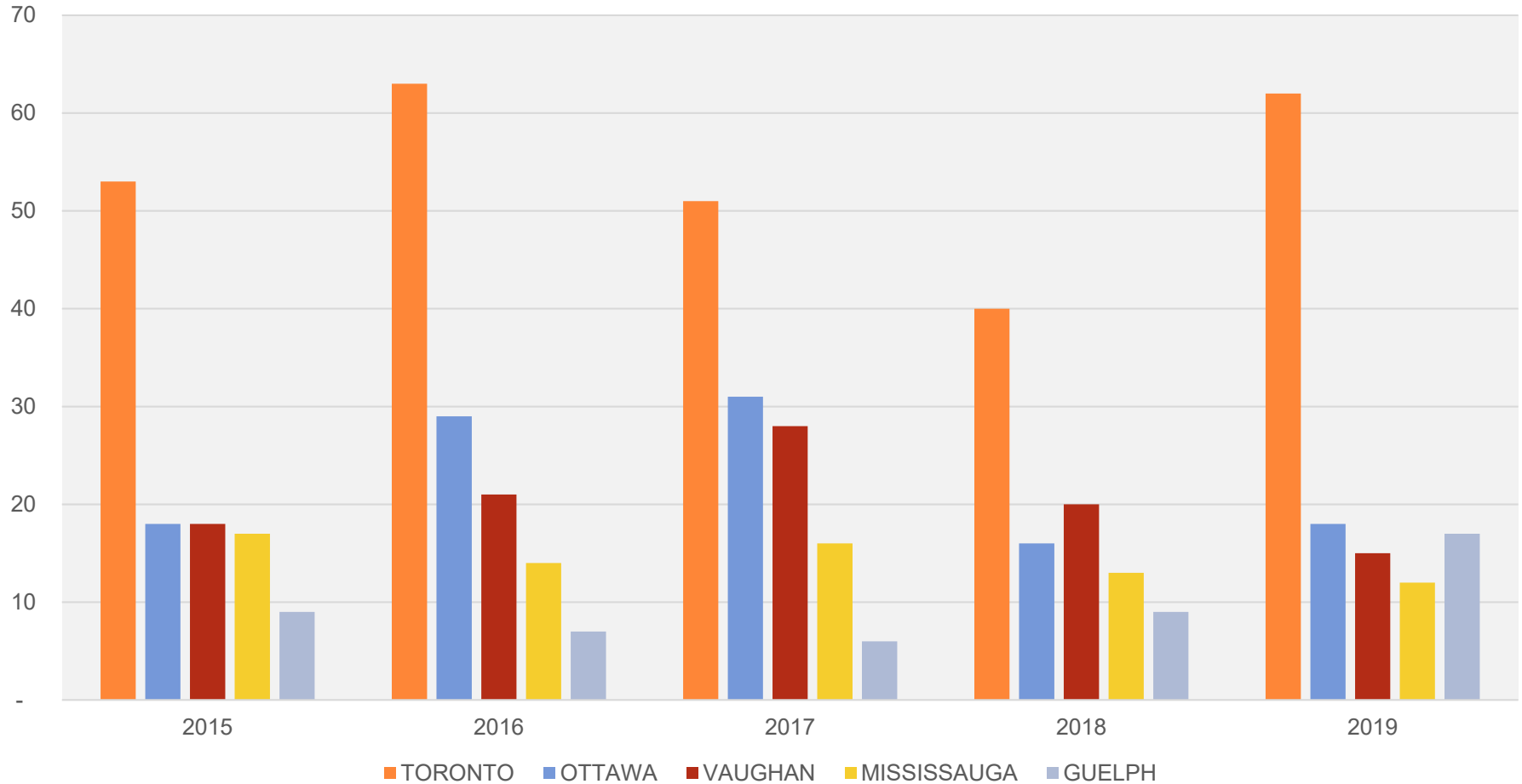




**Top 5 Most Common Incident Places  
Rate Group 723**

| Year        | TORONTO |            | OTTAWA |            | VAUGHAN |            | MISSISSAUGA |            | GUELPH |            | Total for Top 5 |            |
|-------------|---------|------------|--------|------------|---------|------------|-------------|------------|--------|------------|-----------------|------------|
|             | Count   | % of Total | Count  | % of Total | Count   | % of Total | Count       | % of Total | Count  | % of Total | Count           | % of Total |
| <b>2015</b> | 53      | 15.1%      | 18     | 5.1%       | 18      | 5.1%       | 17          | 4.8%       | 9      | 2.6%       | 115             | 32.8%      |
| <b>2016</b> | 63      | 18.4%      | 29     | 8.5%       | 21      | 6.1%       | 14          | 4.1%       | 7      | 2.0%       | 134             | 39.2%      |
| <b>2017</b> | 51      | 14.9%      | 31     | 9.1%       | 28      | 8.2%       | 16          | 4.7%       | 6      | 1.8%       | 132             | 38.6%      |
| <b>2018</b> | 40      | 11.9%      | 16     | 4.8%       | 20      | 6.0%       | 13          | 3.9%       | 9      | 2.7%       | 98              | 29.2%      |
| <b>2019</b> | 62      | 19.8%      | 18     | 5.8%       | 15      | 4.8%       | 12          | 3.8%       | 17     | 5.4%       | 124             | 39.6%      |

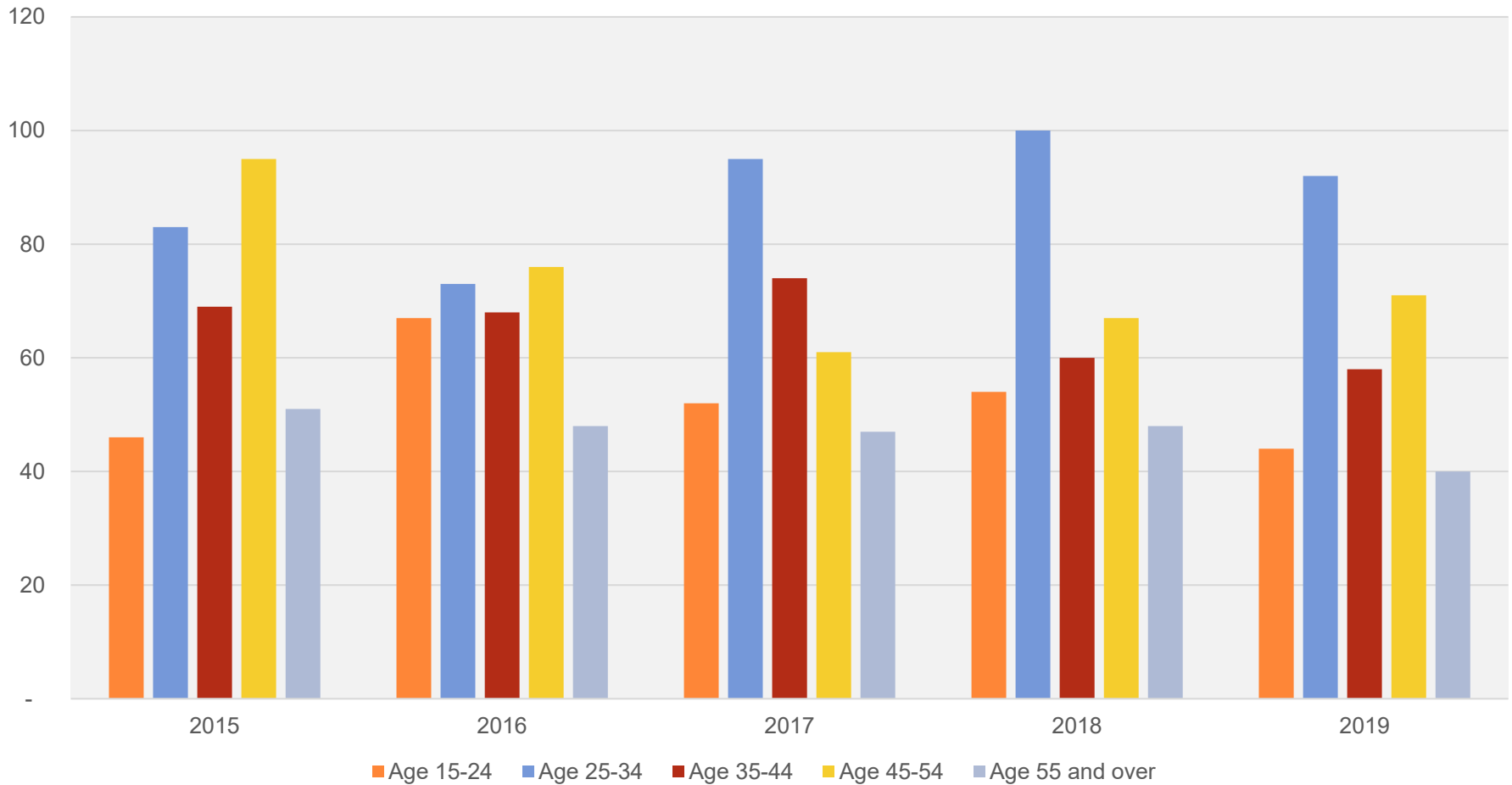
### Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION Top 5 Incident Places for 2015-2019 based on March 2020 snapshot



Age Band Breakdown  
Rate Group 723

| Year        | Child |            | Age 15-24 |            | Age 25-34 |            | Age 35-44 |            | Age 45-54 |            | Age 55 and over |            | Age Unknown |            |
|-------------|-------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------------|------------|-------------|------------|
|             | Count | % of Total | Count     | % of Total | Count     | % of Total | Count     | % of Total | Count     | % of Total | Count           | % of Total | Count       | % of Total |
| <b>2015</b> | -     | 0.0%       | 46        | 13.1%      | 83        | 23.6%      | 69        | 19.7%      | 95        | 27.1%      | 51              | 14.5%      | -           | 0.0%       |
| <b>2016</b> | -     | 0.0%       | 67        | 19.6%      | 73        | 21.3%      | 68        | 19.9%      | 76        | 22.2%      | 48              | 14.0%      | -           | 0.0%       |
| <b>2017</b> | -     | 0.0%       | 52        | 15.2%      | 95        | 27.8%      | 74        | 21.6%      | 61        | 17.8%      | 47              | 13.7%      | -           | 0.0%       |
| <b>2018</b> | -     | 0.0%       | 54        | 16.1%      | 100       | 29.8%      | 60        | 17.9%      | 67        | 19.9%      | 48              | 14.3%      | -           | 0.0%       |
| <b>2019</b> | -     | 0.0%       | 44        | 14.1%      | 92        | 29.4%      | 58        | 18.5%      | 71        | 22.7%      | 40              | 12.8%      | -           | 0.0%       |

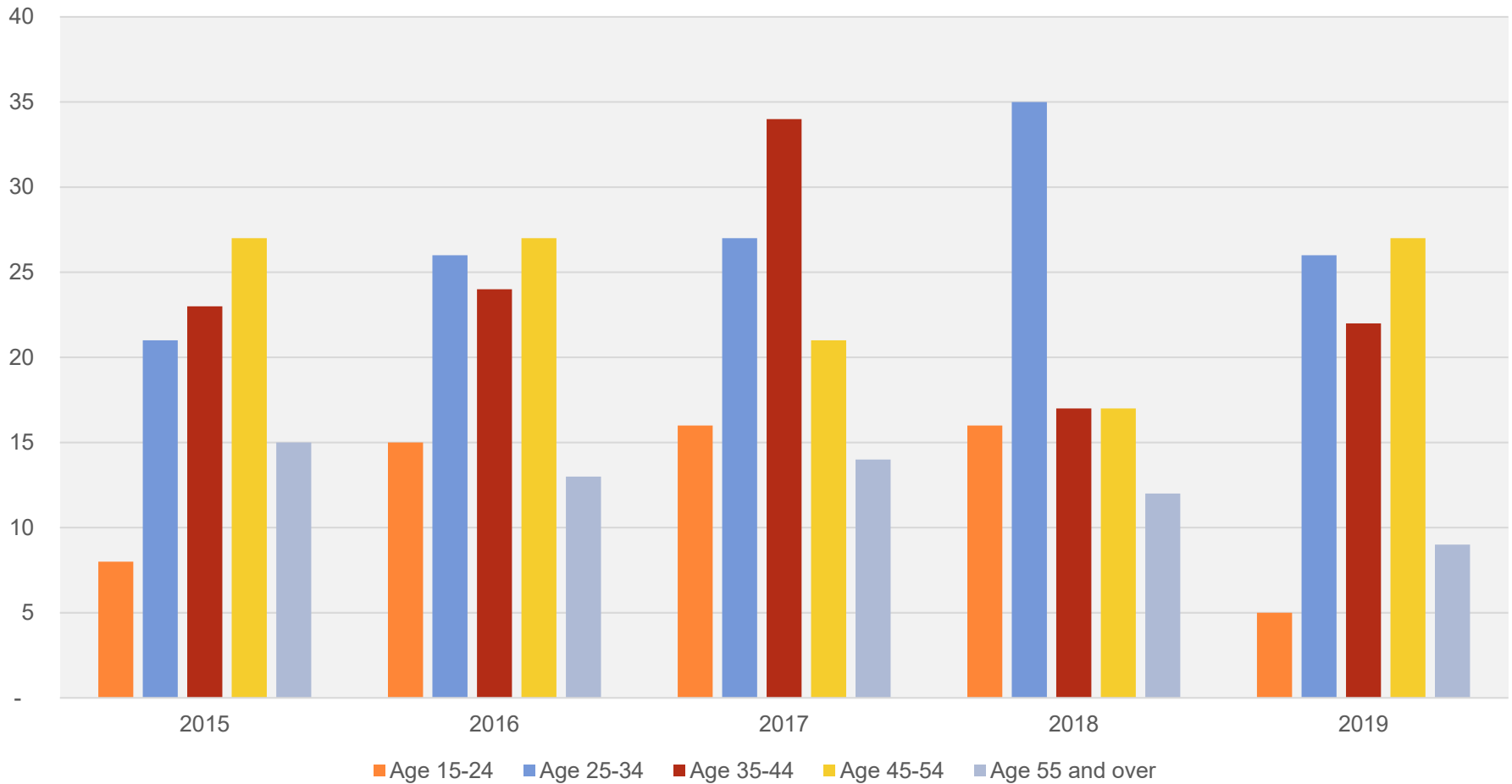
### Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION LTIs by Age Band for 2015-2019 based on March 2020 snapshot



MSD Breakdown by Age Band  
Rate Group 723

| Year        | Child |            | Age 15-24 |            | Age 25-34 |            | Age 35-44 |            | Age 45-54 |            | Age 55 and over |            | Age Unknown |            |
|-------------|-------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------------|------------|-------------|------------|
|             | Count | % of Total | Count     | % of Total | Count     | % of Total | Count     | % of Total | Count     | % of Total | Count           | % of Total | Count       | % of Total |
| <b>2015</b> | -     | 0.0%       | 8         | 8.4%       | 21        | 22.1%      | 23        | 24.2%      | 27        | 28.4%      | 15              | 15.8%      | -           | 0.0%       |
| <b>2016</b> | -     | 0.0%       | 15        | 13.8%      | 26        | 23.9%      | 24        | 22.0%      | 27        | 24.8%      | 13              | 11.9%      | -           | 0.0%       |
| <b>2017</b> | -     | 0.0%       | 16        | 13.4%      | 27        | 22.7%      | 34        | 28.6%      | 21        | 17.6%      | 14              | 11.8%      | -           | 0.0%       |
| <b>2018</b> | -     | 0.0%       | 16        | 15.8%      | 35        | 34.7%      | 17        | 16.8%      | 17        | 16.8%      | 12              | 11.9%      | -           | 0.0%       |
| <b>2019</b> | -     | 0.0%       | 5         | 5.3%       | 26        | 27.7%      | 22        | 23.4%      | 27        | 28.7%      | 9               | 9.6%       | -           | 0.0%       |

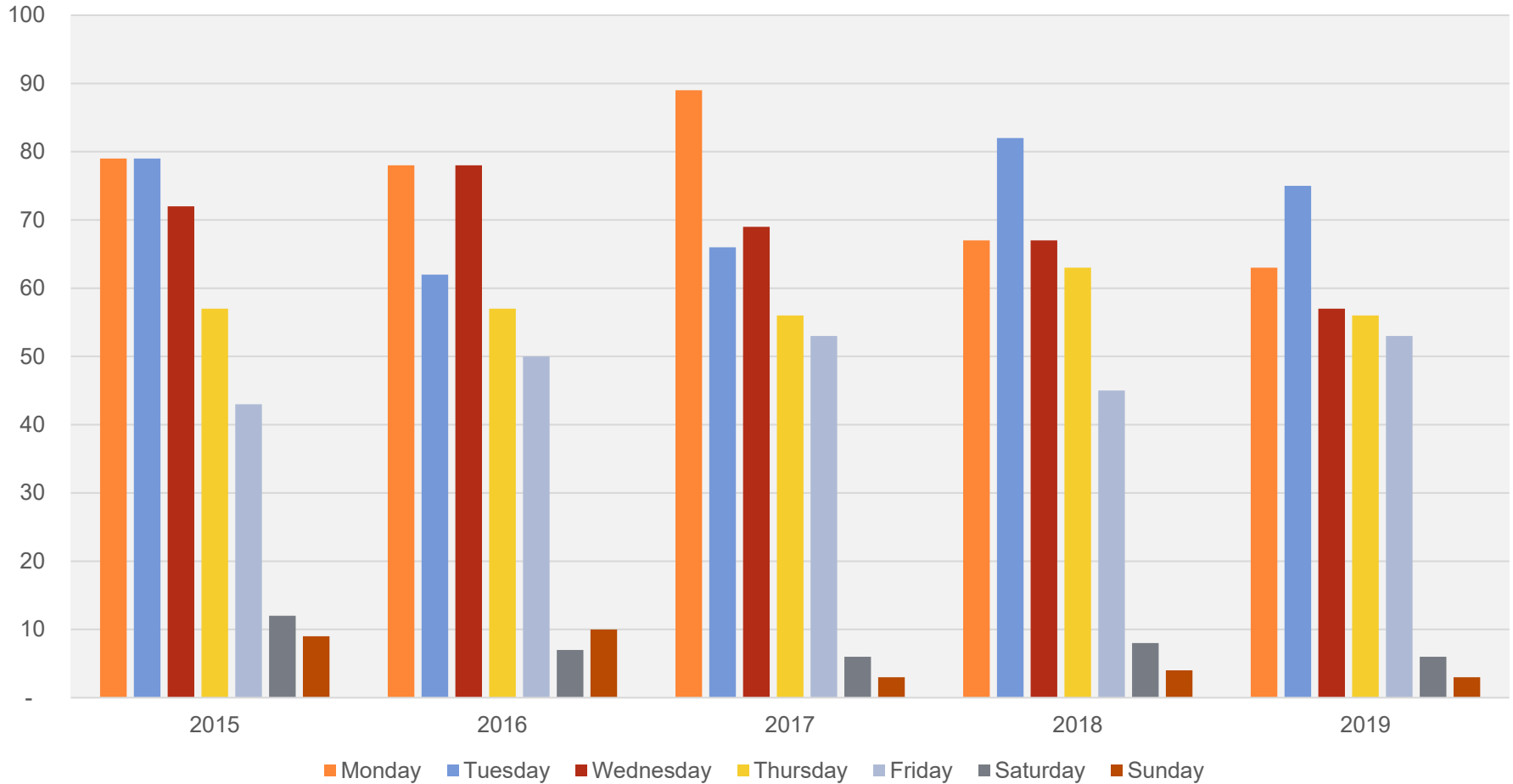
### Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION MSD by Age Band for for 2015-2019 based on March 2020 snapshot



LTI Breakdown by Day of Week  
Rate Group 723

| Year        | Monday |            | Tuesday |            | Wednesday |            | Thursday |            | Friday |            | Saturday |            | Sunday |            |
|-------------|--------|------------|---------|------------|-----------|------------|----------|------------|--------|------------|----------|------------|--------|------------|
|             | Count  | % of Total | Count   | % of Total | Count     | % of Total | Count    | % of Total | Count  | % of Total | Count    | % of Total | Count  | % of Total |
| <b>2015</b> | 79     | 22.5%      | 79      | 22.5%      | 72        | 20.5%      | 57       | 16.2%      | 43     | 12.3%      | 12       | 3.4%       | 9      | 2.6%       |
| <b>2016</b> | 78     | 22.8%      | 62      | 18.1%      | 78        | 22.8%      | 57       | 16.7%      | 50     | 14.6%      | 7        | 2.0%       | 10     | 2.9%       |
| <b>2017</b> | 89     | 26.0%      | 66      | 19.3%      | 69        | 20.2%      | 56       | 16.4%      | 53     | 15.5%      | 6        | 1.8%       | 3      | 0.9%       |
| <b>2018</b> | 67     | 19.9%      | 82      | 24.4%      | 67        | 19.9%      | 63       | 18.8%      | 45     | 13.4%      | 8        | 2.4%       | 4      | 1.2%       |
| <b>2019</b> | 63     | 20.1%      | 75      | 24.0%      | 57        | 18.2%      | 56       | 17.9%      | 53     | 16.9%      | 6        | 1.9%       | 3      | 1.0%       |

### Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION LTIs by Day of Week for 2015-2019 based on March 2020 snapshot





LTI Breakdown By Month  
Rate Group 723

| Month            | 2015  |            | 2016  |            | 2017  |            | 2018  |            | 2019  |            |
|------------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|
|                  | Count | % of Total | Count | % of Total | Count | % of Total | Count | % of Total | Count | % of Total |
| <b>January</b>   | 22    | 6.3%       | 39    | 11.4%      | 32    | 9.4%       | 25    | 7.4%       | 36    | 11.5%      |
| <b>February</b>  | 22    | 6.3%       | 21    | 6.1%       | 15    | 4.4%       | 30    | 8.9%       | 25    | 8.0%       |
| <b>March</b>     | 38    | 10.8%      | 16    | 4.7%       | 25    | 7.3%       | 25    | 7.4%       | 17    | 5.4%       |
| <b>April</b>     | 25    | 7.1%       | 29    | 8.5%       | 26    | 7.6%       | 17    | 5.1%       | 28    | 8.9%       |
| <b>May</b>       | 22    | 6.3%       | 28    | 8.2%       | 32    | 9.4%       | 36    | 10.7%      | 23    | 7.3%       |
| <b>June</b>      | 27    | 7.7%       | 30    | 8.8%       | 26    | 7.6%       | 26    | 7.7%       | 27    | 8.6%       |
| <b>July</b>      | 26    | 7.4%       | 26    | 7.6%       | 40    | 11.7%      | 46    | 13.7%      | 34    | 10.9%      |
| <b>August</b>    | 36    | 10.3%      | 35    | 10.2%      | 32    | 9.4%       | 30    | 8.9%       | 28    | 8.9%       |
| <b>September</b> | 40    | 11.4%      | 31    | 9.1%       | 27    | 7.9%       | 21    | 6.3%       | 22    | 7.0%       |
| <b>October</b>   | 36    | 10.3%      | 33    | 9.6%       | 30    | 8.8%       | 30    | 8.9%       | 30    | 9.6%       |
| <b>November</b>  | 39    | 11.1%      | 38    | 11.1%      | 35    | 10.2%      | 28    | 8.3%       | 27    | 8.6%       |
| <b>December</b>  | 18    | 5.1%       | 16    | 4.7%       | 22    | 6.4%       | 22    | 6.5%       | 16    | 5.1%       |

## Rate Group 723 - INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL CONSTRUCTION LTIs by Month for 2015-2019 based on March 2020 snapshot

