



**CHICAGOLAND  
RISK FORUM**  
CHICAGO & MID-ILLINOIS RIMS CHAPTERS



The Story of RGIS

# Data Analytics in the Real World

# Objectives

## 1. Why is This is a Compelling Story?

- Results
  1. 20-25% Reduction in LTI Frequency Year over Year
  2. Reduced Average Claims Cost and LTI Average Claims Cost by 60%
  3. 2017 to 2016 Savings of \$1.6M Direct (3.2M Indirect/\$4.8M Total)
- Data Can Be a Powerful Tool and Resource for You.
  1. Benchmarking

## 2. Understand How Data Analytics Can Be a Gateway to Strategic Operational Solutions. The story:

- How Data Analytics and Benchmarking Lead to Actionable Insights
- How Actionable Insights Lead to Operational Changes
- How Operational Changes Lead to Cultural Changes and Continuous Improvement

# Client Risk Solutions

## What is Data Analytics?

Advanced Analytics boosts the impact of our solutions at every stage.



- Ergonomics consulting
- Security & terrorism prevention
- Enterprise risk management

- Health & safety risk management
- Wearable technology & devices
- Fleet risk management

- Crisis response & support
- Post-loss mitigation
- Product liability & defensibility

- Workers compensation fraud detection & mitigation

- Workers compensation legal panel review
- Workers compensation settlement strategy

# Catastrophe Risk Insights

## Windstorm – Location level Hazard

### Top 5 Wind Hazard Driving Locations

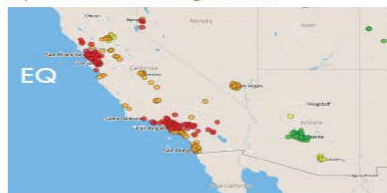


Location	TIV	100-yr Windspeed	SS Category	Hazard
N Military Trl, Boca Raton, FL, US	\$78.2M	135	3	Very High
Carretera 887 Km 30, Carolina, PR, PR	\$17.3M	135	3	Very High
W Corporate Lakes Blvd, Weston, FL, US	\$16M	135	3	Very High
Infanteria Ave Km 74, Carolina, O, PR	\$5.6M	135	3	Very High
Carretera Pr-167 Km 222, Bayamon, PR, PR	\$4.6M	135	3	Very High

100-yr windspeed is given as 3-sec gusts.  
SS - Saffir-Simpson Hurricane Wind Scale from 1 to 5.

## Earthquake – Location level Hazard

### Top 5 EQ Hazard Driving Locations



Location	TIV	475-yr MMI	Hazard
Auto Mail Pkwy, Fremont, CA, US	\$21.3M	8.8	Very High
Geary Blvd, San Francisco, CA, US	\$12M	8.8	Very High
MIDDLE STREET, BEIJING CITY, BEIJINGSHI, CN	\$4.7M	8.1	Very High
Los Gatos Blvd, Los Gatos, CA, US	\$4.4M	8.6	Very High
Soscol Ave, Napa, CA, US	\$4.4M	8.3	Very High

The 475-yr hazard level (or 10% chance of exceedance in the next 50 years) is the most common standard used in the industry for assessing seismic risk.

MMI - Modified Mercalli Intensity measures earthquake intensity levels from imperceptible shaking (MMI I) to extreme damage (MMI X).

Windstorm risk is driven by **Very High** hazard locations in **US** and **Puerto Rico**, and **High** hazard locations along the **Gulf Coast**. **Earthquake** risk is dominated by **Very High** hazard locations in **US**, especially **California** and **Utah**.

**Flood** risk is dominated by **Very High** to **High** hazard locations in **South Florida**, **Tampa Bay Area**, **Gulf Coast**, and **California**. **Cat 4** hurricane in **Tampa** produces significant storm surge in the downtown area flooding two locations with more than **4 feet** of water.

## Flood – Location level Hazard

### Top 5 Flood Hazard Driving Locations



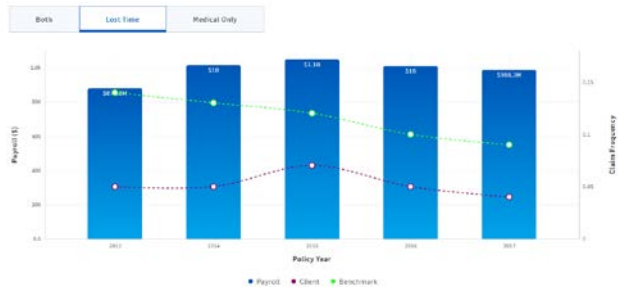
Location	TIV	Flood Zone	Flood Risk Score	Hazard
TELICUM ST, BURNABY, BC, CA	\$17M	10-yr	65	Very High
Orange St, Redlands, CA, US	\$3.5M	100-yr	75	Very High
West Ave, Miami Beach, FL, US	\$2.9M	100-yr	70	Very High
Martin Luther King Jr Blvd, S Greenville, MS, US	\$2.9M	100-yr	75	Very High
Highway 192 W, London, KY, US	\$2.6M	100-yr	80	Very High

Flood Risk Score measures flood hazard intensity on a scale from 0 (no flood hazard) to 100 (extreme flood hazard).

### Cat 4 Storm Surge in Tampa



# Benchmarking



## Top Areas of Opportunity

Areas of Opportunity are the areas (i.e. NCCI, State, Year) where you could have potential savings if they are able to perform at benchmark level. Potential Opportunities are calculated by looking at the difference between your frequency and the industry average (benchmark) multiplied by an expected severity. The Potential Opportunities are not a guarantee; the savings represent what could have been saved if the client had managed its risks in a particular state-occupation to be at the same frequency level as the benchmark.

### Policy Years 2013 - 2017



- 3726 - Boiler Install \$908.7K
- 5403 - Carpentry \$643K
- 8810 - Clerical Office/Worker \$637.4K
- 4771 - Ammunition Mfg \$616.9K
- All Others \$2.6M

## 2017

### Here's what you could have saved

If you had performed at industry average levels across these NCCI codes

- 3726 - Boiler Install \$293.1K
- 8810 - Clerical Office/Worker \$105.2K
- 4771 - Ammunition Mfg \$72.1K
- 3724 - Pump Install \$64.5K
- All - Others \$226.6K



We recommend investing in training for '3726 - Boiler Install'

Investing in NCCI Class Code - (6810) and (4771) could help you meet the industry average and save money next year.

[Learn More](#)

# Fraud Analytics



## Fraud Analytics

Years of experience – to battle fraud for you

### What is Fraud Analytics?

Fraud is a well-known risk in the insurance world, and Worker's Compensation is not exempt. AIG seeks to turn Worker's Compensation fraud from a cost of doing business to one more risk that can be mitigated. AIG's Client Risk Solutions uses state-of-the-art technology in machine learning with AIG's decades of claims experience to extract red flags from claim adjustor notes and identify suspicious Worker's Compensation claims. We also build customized predictive models suited for the client's own claims data.



Market Ready



U.S.



WC

### What are the Benefits?

- Improve efficiency and efficacy of fraud investigations
- Monitor changes in fraud patterns
- Provide feedbacks to claims adjustors
- Enhance fraud awareness culture
- Reduce overall fraud rate



# Wearables - Testing

INTRODUCTION | ANALYTICS AND TECHNOLOGY SERVICES: MARKET READY | **IN TESTING** | IN DEVELOPMENT | SCENARIOS | CLIENT JOURNEY



## Wearables

Leveraging analytics and sensor technology to reduce workplace risk

### What are wearables?

Wearables are smart electronic devices that can be worn on the body. Depending on the wearable, they can capture information such as individual movements, styles of movement (and thus unsafe movements), certain individual biometric data and environmental information. Resulting data provides insights that help diagnose challenges in workplace environment and worker behavior. Current and past insights have investigated bad bends and stretches, unsafe locations and alerts, and potential repetitive motion injuries waiting to happen. Wearables data leads to immediate notification and insights into better training and compliance practices to get your organization on the road to a stronger safety culture.

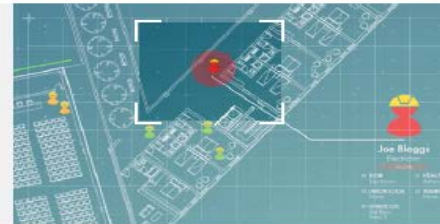
 In Testing

 Global

 WC

### What are the Benefits?

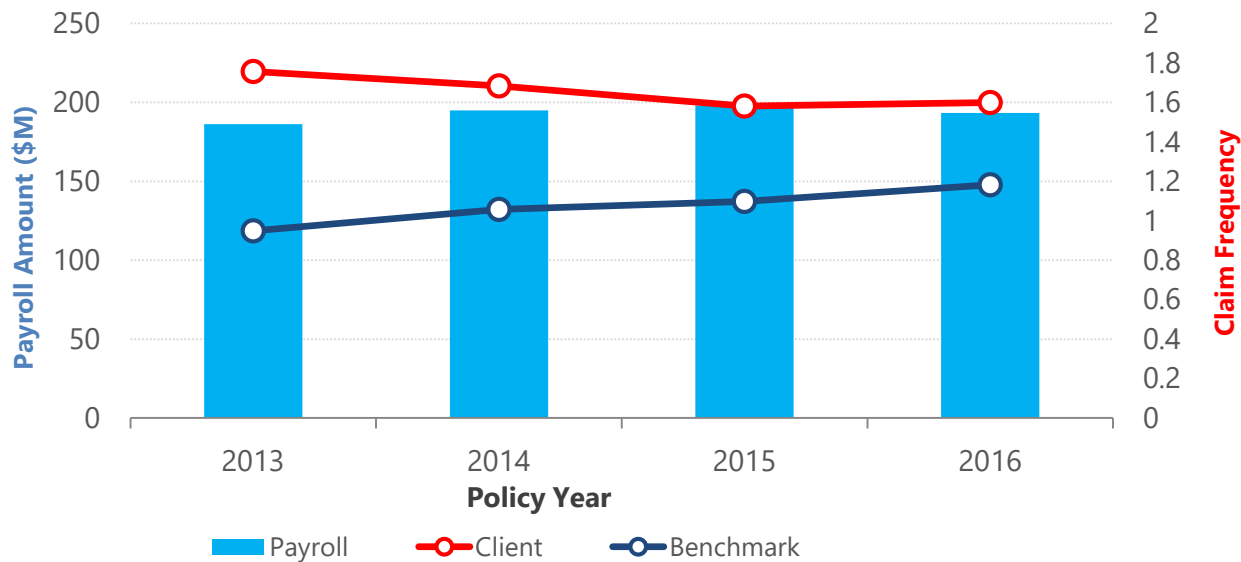
- Enhanced safety culture
- Reduced injury risk and cost
- Improved postures in the workplace
- Help prevent injuries before they happen
- Drive and monitor behavioral changes
- Data-driven insights



Opportunity

Management Attention

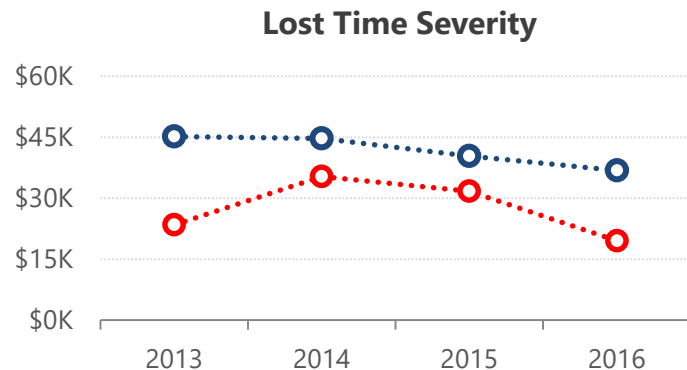
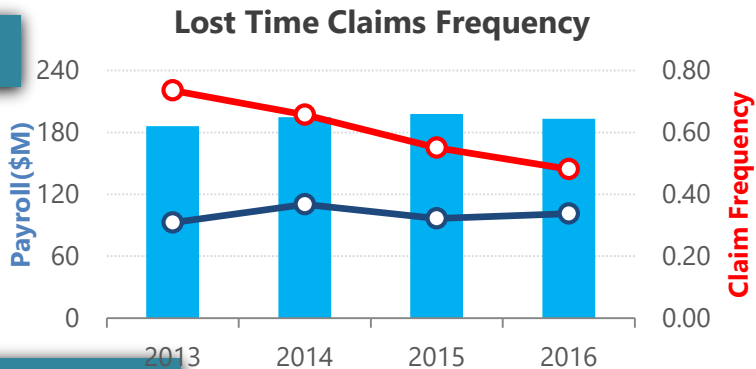
### Claim Frequency and Payroll



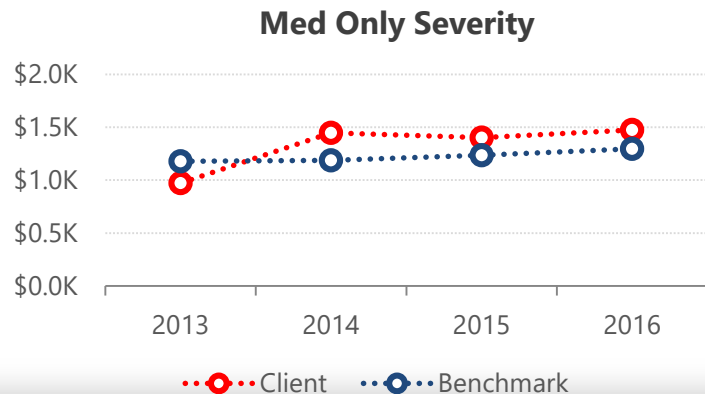
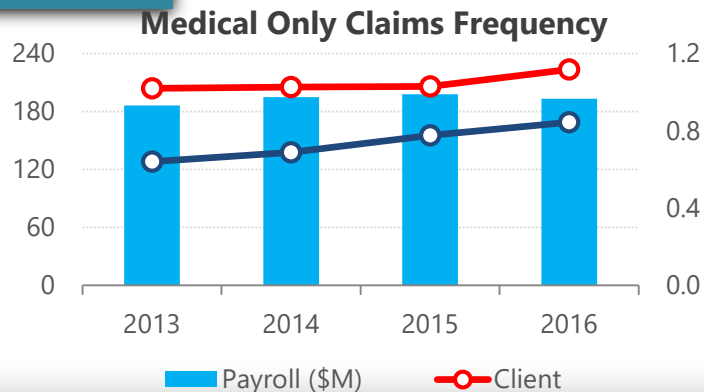
- Claim frequency defines as number of claims per \$1 millions of payroll



SETTING GOALS



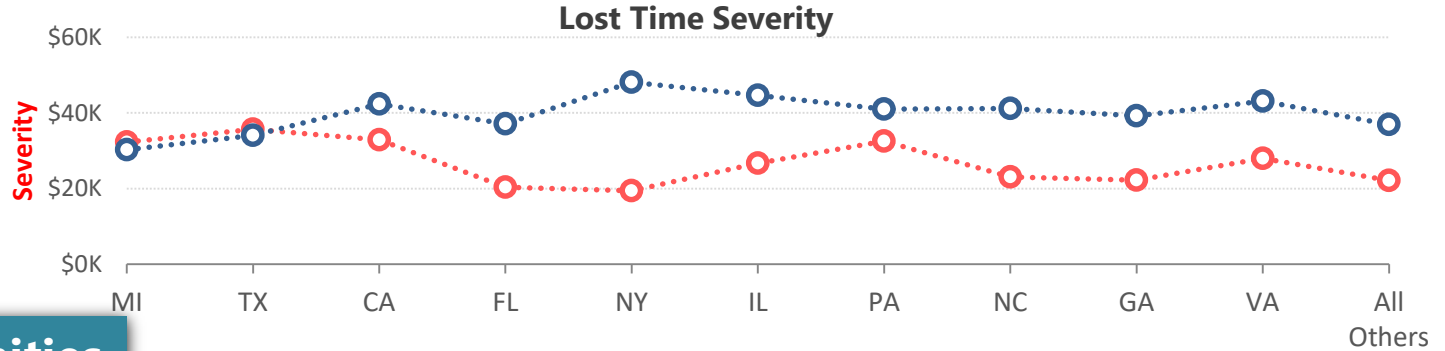
CLAIMS MANAGEMENT



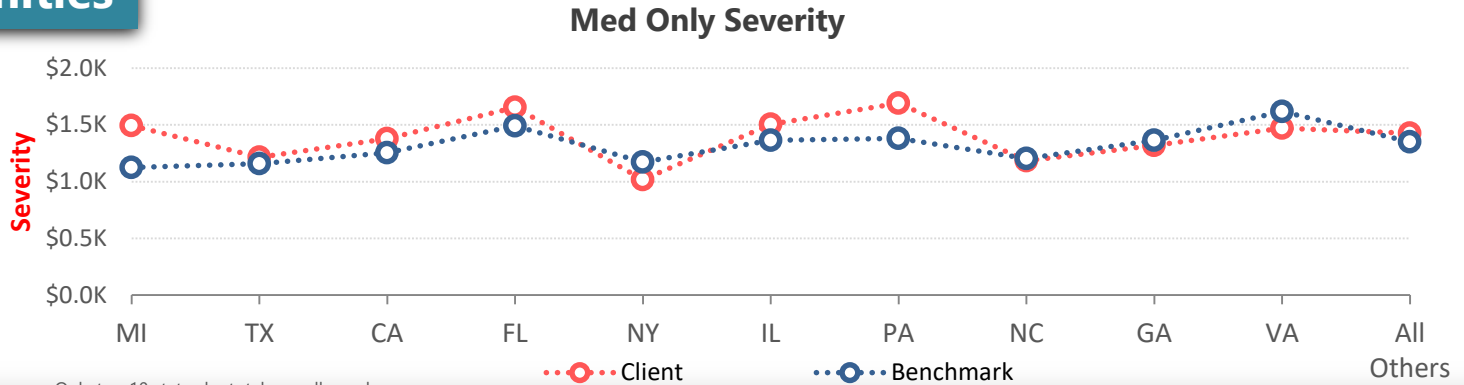
# Client Risk Solutions

## Client vs. Benchmark – Severity Across States

Leadership



Location Opportunities



• Only top 10 states by total payroll are shown

●●● Client

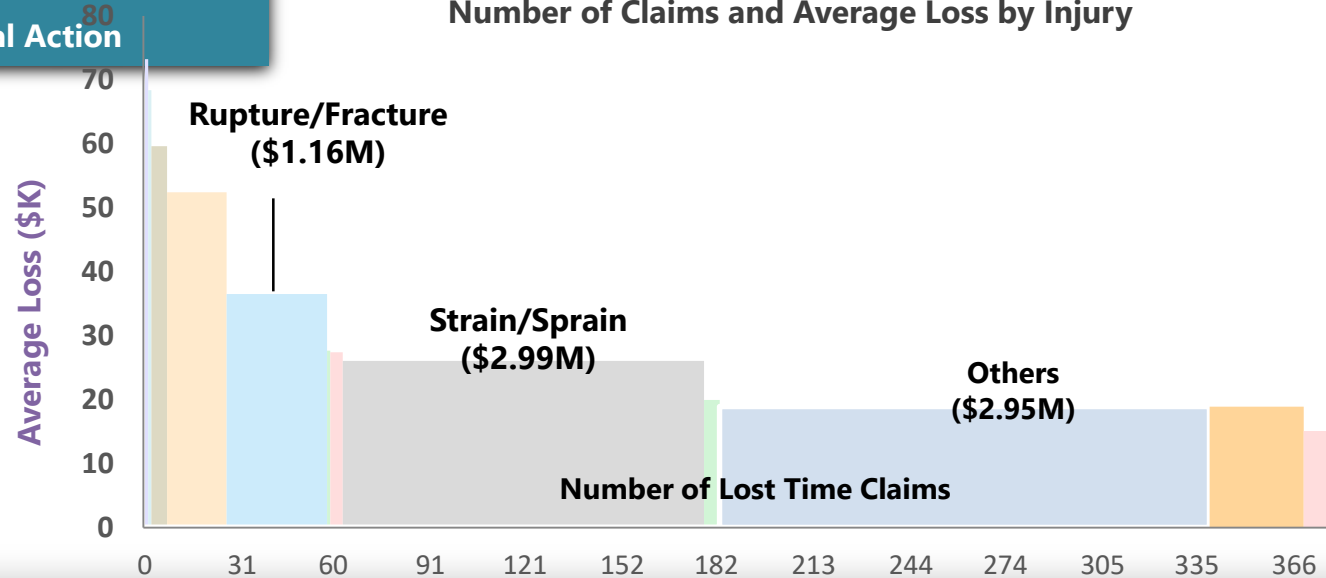
●●● Benchmark

# Client Risk Solutions

Injury Deep Dive – Risk Inspection 8720

- Created Tools to Report All Claims Timely
- Created New Position – Claims Administrator
- Return to Work Program Enhanced and Embraced
- Allocate Costs Back to Regions/Divisions
- Closed Legacy Claims
- Increased Advocacy to Avoid Legal Action

### Number of Claims and Average Loss by Injury

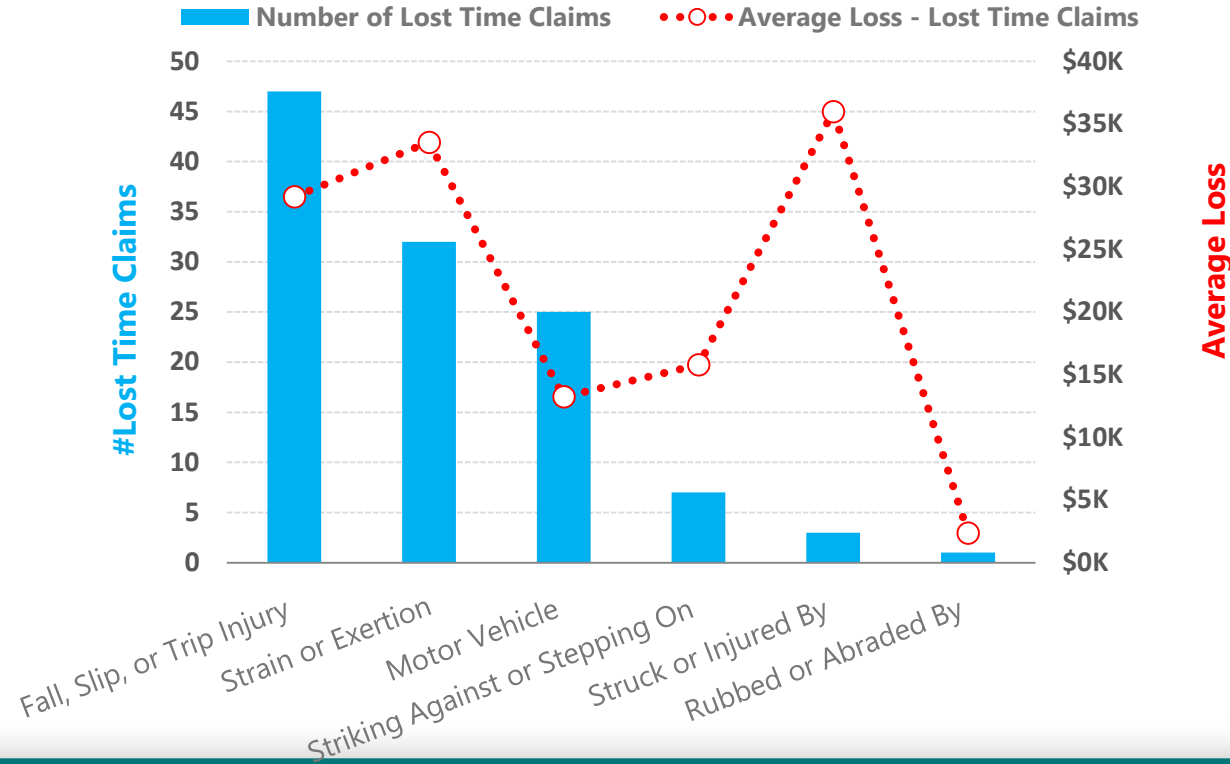


# Client Risk Solutions

Strain/Sprain – Key Causes (Risk Inspection 8720)

**ERGONOMICS**

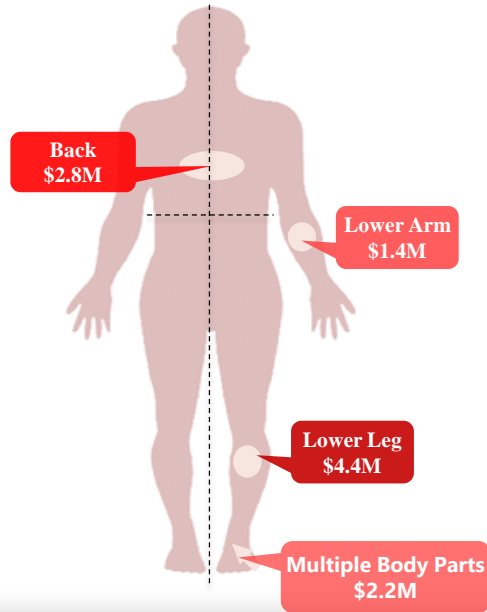
**LIFTING PLAYBOOK**



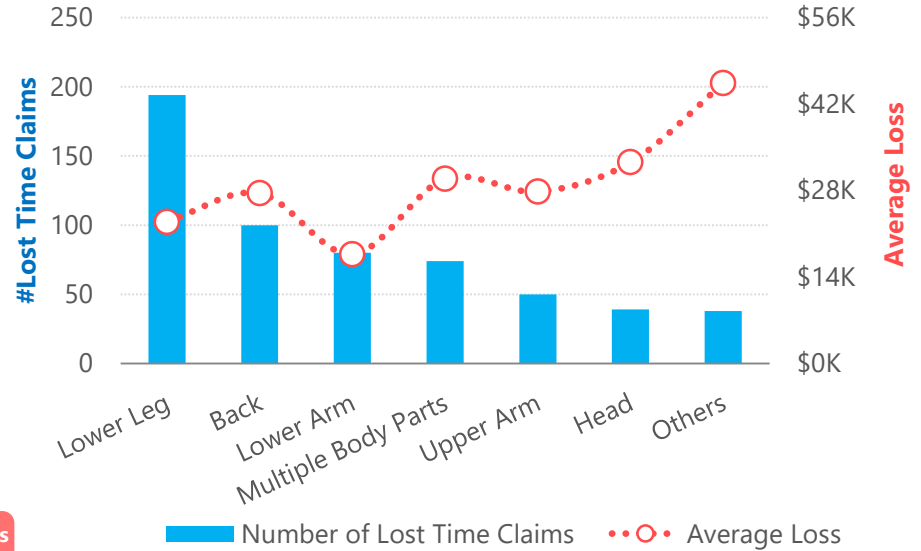
### AWKWARD POSITIONS

### KNEELING

#### Total Loss by Body Parts



#### Lost Time Claims and Average Loss by Body Parts

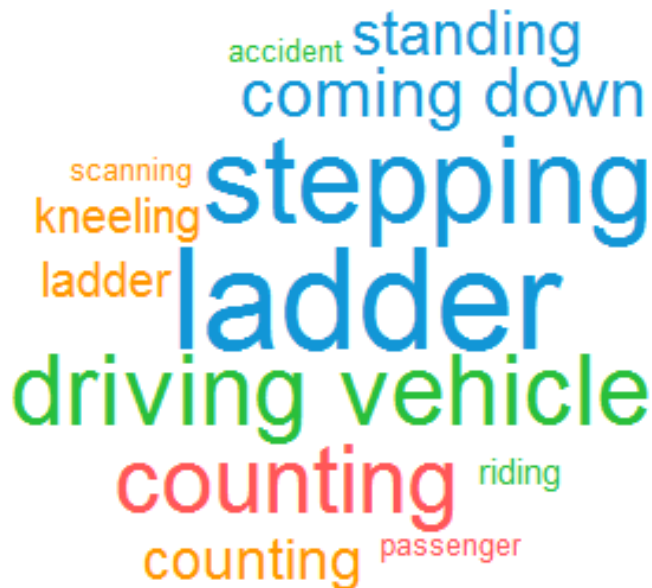


FLEET SAFETY

LADDER SAFETY

CUSTOM ERGO TRAINING

Text Mining of Loss Descriptions on Top 4 Causes  
(Size by Claim Count; Color by Cause Type)



- Fall, Slip, or Trip Injury
- Strain or Exertion
- Motor Vehicle
- Struck or Injured By

# Using Data Drive Operational Change

## Show Video #2 – The RGIS Story

1. Fleet Safety
  - Approved Drivers
  - Telematics
2. Workers' Compensation
  - Ladders
  - Strains/Sprains
    - Kneeling
3. Claims Management
  - Return to Work
  - Reporting, Advocacy