Improving Safety By Changing Driver Behavior
South Florida PRIMA
May 18th 2017

Karen Muir
Risk Manager
City of North Miami

Ann-Marie Sharpe, ARM-P
Director of Risk Management
City of Miami

Rush Akin
Director, Government Fleets
Lytx Drivecam

Mario F Nunez
Director, Department of Solid Waste
City of Miami
THE DATA
LOCAL GOVERNMENT
Collision Statistics – Month and Day

% of Collisions by Month:
- Jan: 5.9%
- Feb: 7.8%
- Mar: 6.3%
- Apr: 7.4%
- May: 7.3%
- Jun: 6.4%
- July: 5.9%
- Aug: 7.1%
- Sept: 8.4%
- Oct: 14.1%
- Nov: 10.7%
- Dec: 12.7%

% of Collisions by Day:
- Mon: 22.8%
- Tue: 18.3%
- Wed: 18.0%
- Thur: 17.3%
- Fri: 18.7%
- Sat: 4.5%
- Sun: 0.4%
Collision Statistics – Hour of Day

<table>
<thead>
<tr>
<th>Hour</th>
<th>% of Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.2%</td>
</tr>
<tr>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td>2</td>
<td>0.5%</td>
</tr>
<tr>
<td>3</td>
<td>0.8%</td>
</tr>
<tr>
<td>4</td>
<td>2.5%</td>
</tr>
<tr>
<td>5</td>
<td>3.6%</td>
</tr>
<tr>
<td>6</td>
<td>4.2%</td>
</tr>
<tr>
<td>7</td>
<td>4.0%</td>
</tr>
<tr>
<td>8</td>
<td>6.3%</td>
</tr>
<tr>
<td>9</td>
<td>7.3%</td>
</tr>
<tr>
<td>10</td>
<td>8.1%</td>
</tr>
<tr>
<td>11</td>
<td>8.8%</td>
</tr>
<tr>
<td>12</td>
<td>9.4%</td>
</tr>
<tr>
<td>13</td>
<td>8.9%</td>
</tr>
<tr>
<td>14</td>
<td>7.6%</td>
</tr>
<tr>
<td>15</td>
<td>8.5%</td>
</tr>
<tr>
<td>16</td>
<td>8.5%</td>
</tr>
<tr>
<td>17</td>
<td>7.3%</td>
</tr>
<tr>
<td>18</td>
<td>9.3%</td>
</tr>
<tr>
<td>19</td>
<td>8.8%</td>
</tr>
<tr>
<td>20</td>
<td>2.2%</td>
</tr>
<tr>
<td>21</td>
<td>3.6%</td>
</tr>
<tr>
<td>22</td>
<td>4.0%</td>
</tr>
<tr>
<td>23</td>
<td>6.3%</td>
</tr>
</tbody>
</table>
Top behaviors Exhibited in Collision Drivers

- Handsfree Cell Distractions: 2.5
- Following Too Close 1 Second or Less: 1.9
- Handheld Cell Distraction: 1.8
- Running a Red Light: 1.8
- Not Scanning Intersection: 1.7

© 2017 LYTX, INC. ALL RIGHTS RESERVED.
WHAT INFLUENCES YOUR DRIVER’S BEHAVIOR?

- Current Driving Behavior
  - Value of Present Time
  - Value of Future Time
  - Habit
  - Experience
  - Training
  - Feedback
  - Time Pressure
  - Information Processing
  - Information Technology
  - Skills
  - Vehicle Handling
  - Human Limits
  - Mobility/Growth
  - Broad Social Concerns
  - Conservation
  - Commercial Advertising
  - Media/Pop Culture
  - Motor Sports/Fun Adventure
  - Driving Culture
  - Other Drivers
  - Near Misses/Conflicts
  - Fatigue
  - Distractions
  - Task Conflicts
  - Equipment
  - Feedback

- Current Driving Behavior
  - Risk Acceptance
  - Value of Future Time
  - Thrill Seeking
  - Boredom
  - Informal Social Norms
  - Observed Models
  - Peer Pressure
  - Family Pressure
  - Peer
  - Task Conflicts
  - Information Technology
  - Information Processing
  - Human Limits
  - Mobility/Growth
  - Broad Social Concerns
  - Conservation
  - Commercial Advertising
  - Media/Pop Culture
  - Motor Sports/Fun Adventure
  - Driving Culture
  - Other Drivers
  - Near Misses/Conflicts
  - Fatigue
  - Distractions
  - Task Conflicts
  - Equipment
  - Feedback

- Current Driving Behavior
  - Risk Acceptance
  - Value of Future Time
  - Thrill Seeking
  - Boredom
  - Informal Social Norms
  - Observed Models
  - Peer Pressure
  - Family Pressure
  - Peer
  - Task Conflicts
  - Information Technology
  - Information Processing
  - Human Limits
  - Mobility/Growth
  - Broad Social Concerns
  - Conservation
  - Commercial Advertising
  - Media/Pop Culture
  - Motor Sports/Fun Adventure
  - Driving Culture
  - Other Drivers
  - Near Misses/Conflicts
  - Fatigue
  - Distractions
  - Task Conflicts
  - Equipment
  - Feedback
WHAT MAKES PEOPLE CHANGE?

Fogg Behavior Model

High Motivation

Motivation

Low Motivation

triggers succeed here

triggers fail here

Action Line

B = mat

behavior
motivation
ability
trigger
at same moment

Hard to Do
ability
Easy to Do

For permissions, contact BJ Fogg.

Image Source: www.foggmethod.com

© 2017 BJ Fogg

BJ Fogg, PhD
Stanford University

Image Source: www.foggmethod.com
WHAT MOTIVATES YOU?
County and City of Denver
Rear End Collision...almost always distracted driving

Image Source: Lars Williams, City/County of Denver
There was a 12 foot skid mark from the front truck after impact
...the perfect location
What if?

• What if our truck hit a family in a car instead of our truck
• City’s insurance cap is $150,000 unless gross negligence is proven
• The typical wrongful death case pays $2 to $4 million not including court awarded punitive
• Liability issues can change how and what types of operations the city is willing to do
MODIFYING DRIVER BEHAVIOR BEFORE THE MAJOR INCIDENT


- Change the **risky behaviors** here to …
- Reduce the minor collisions and to …
- Avoid the major collision.

1. Major Collision
2. 29 Minor Damage or Near Collisions
3. 300 No-Damage Risky Incidents
Distracted
Looking the wrong way
Luckiest?
Engaging in Continuous Skill Improvement

*Three phases toward Driver Improvement*

**Expose Risk**
- Capture data and evidence of poor driving behavior.

**Identify & Prioritize**
- Use data to identify the riskiest drivers and develop and prioritize a coaching plan.

**Coach & Improve**
- Coach and train the riskiest drivers. Reward safe drivers for their performance.

© 2017 LYTX, INC. ALL RIGHTS RESERVED.
REDUCING RISK - HOW WE DO IT

Providing Technology . . .

. . . and Co-Managing a Program

Produces Results.
### DRIVER RISK REPORTING – FOCUSING ON PRIORITIES

Analytics and standard reports allow you to identify concentrations of risk.

**Score & Risk, 6 Months**
- More than 36 = 2.5x
- More than 56 = 3.0x
- More than 91 = 3.5x

<table>
<thead>
<tr>
<th>Driver Name</th>
<th>Region</th>
<th>Location</th>
<th>Coach-able Events</th>
<th>Total Score</th>
<th>Collisions/Avoid Near Colls</th>
<th>FTC and NLFA</th>
<th>Traffic Violation</th>
<th>Cell Phone</th>
<th>Seatbelt (All)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max</td>
<td>North East Region</td>
<td>Bremngsville, PA</td>
<td>11</td>
<td>37</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Rho</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>11</td>
<td>28</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Tri</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>7</td>
<td>27</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Chen</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>11</td>
<td>26</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Lee</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>8</td>
<td>19</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Edg</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>7</td>
<td>14</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Breg</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>3</td>
<td>13</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Mel</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>3</td>
<td>13</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Joa</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>8</td>
<td>12</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Cle</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>2</td>
<td>10</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rie</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>9</td>
<td>9</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Don</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>4</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Grim</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Beo</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Fish</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Pao</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Piot</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pake</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Prop</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Sion</td>
<td>North East Region</td>
<td>Mechanicsburg, PA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Top 10% (5) Drivers represented 68% of the total Risk.
RECOGNIZING SAFE DRIVERS
Recap

✓ We can change habits, if the timing is right
✓ Often drivers are unaware of behaviors
✓ Identify those ‘near misses’ that often go unreported, but lead to the next major event
✓ “Coach” workers on the proper behaviors
✓ Reward those that deserve it, shift the culture, set the social norms
CITY OF MIAMI

ANN-MARIE SHARPE, ARM-P
DIRECTOR OF RISK MANAGEMENT
CITY OF MIAMI

MARIO F NUNEZ
DIRECTOR, DEPARTMENT OF SOLID WASTE
CITY OF MIAMI
THANK YOU

RUSH AKIN
DIRECTOR, GOVERNMENT FLEETS
LYTX DRIVECAM
RUSHAKIN@LYTX.COM
815-382-5168