

Team Name: Sagacity

Abstract

The objective is to determine how different metrics affect the overall performance of Fire Departments. We calculate the impact of different attributes on performance measures such as patient status, response time, action time and property loss. This will help us in identifying which fire departments work best in terms of reaching incident location timely and how well they cater the medical requirements of the patients. We concluded depending on the type of incident we can measure the performance of various departments.

Metrics

Please describe the metrics you defined to evaluate the effectiveness.

* The metrics concentrate on improving the patient’s life, response time and decreasing the loss of properties and content.
* Response Time : Arrival – Alarm. Based on the response time, also considering the differences of locations of incident and fire department, if the response time is less we can consider that Fire Department effective enough.
* Action Time = LU Clear – Arrival. If the Action time increases the loss can be decreased.
* By increasing the number of personnel and firefighters, even if action time is less we can decrease the property and content loss.
* Patient Status : For those records where it is worsened, the apparatus or EMS\_Personnel can be increased to address the same.

Insights

* Town Palm Beach Fire Rescue is associated with the highest property loss, thereby evaluated as a poor performer.
* In spite of lower incident rate in California, we see more number of injuries and huge loss in California compared to Florida even though number of Fire Departments are more in California

Conclusion

Please describe your conclusion here. You can restate your findings and summarize your main points, and provide solution to the problem.

The performance of fire departments vary depending on various factors such as the type of incident, number of fighters attending, response time, action time and also property loss:

* Here are a few departments which led to maximum property loss—

|  |  |  |  |
| --- | --- | --- | --- |
| FDID | FD\_NAME | incidents | TOTAL\_LOSS |
| 6202 | TOWN PALM BEACH FIRE RESCUE | 559 | 8000000 |
| 19110 | LOS ANGELES COUNTY FD | 69829 | 6772100 |
| 23032 | Pama City Fire Dept | 153 | 4107771 |
| 19182 | BREVARD COUNTY FIRE RESCUE | 23473 | 3961109 |
| 57075 | WOODLAND FD | 799 | 2010000 |
| 15010 | KERN CFD | 5876 | 1015257 |
| 33090 | RIVERSIDE CFD | 157 | 1000000 |
| 6142 | BOCA RATON FIRE DEPT | 4820 | 968644 |
| 41095 | SOUTH SAN FRANCISCO FD | 2 | 899045 |
| 3072 | TAMPA FIRE RESCUE | 20267 | 783000 |

* And a few departments which performed best at improving patient conditions—

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FDID | FD\_NAME | incidents | patient\_improved | Life saving Ratio |
| 6202 | TOWN PALM BEACH FIRE RESCUE | 556 | 357 | 0.642086331 |
| 38071 | MARATHON FIRE RESCUE | 260 | 147 | 0.565384615 |
| 26012 | KISSIMMEE FD | 4029 | 2221 | 0.551253413 |
| 42032 | MARTIN COUNTY FIRE RESCUE | 5595 | 3067 | 0.548168007 |
| 32042 | INDIAN RIVER CO FIRE RESCUE | 8271 | 4361 | 0.527263934 |
| 61091 | FLAGLER CO FIRE SERVICES | 3229 | 1655 | 0.512542583 |
| 32012 | INDIAN RIVER SHORES PS | 108 | 55 | 0.509259259 |
| 57012 | OKEECHOBEE CO FIRERESCUE | 1420 | 714 | 0.502816901 |
| 31042 | SUWANNEE COUNTY FD | 1612 | 805 | 0.499379653 |
| 10202 | TAMARAC FIRE DEPARTMENT | 1997 | 992 | 0.496745118 |