

# Analysis over City Payroll

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# Our Dataset

- Los Angeles City employees' payrolls
- From 2013 to 2018
- 35 columns
  - Different types of payment
  - Department name and Job class title
- 370k records
- Source: <https://controllerdata.lacity.org/Payroll/City-Employee-Payroll/pazn-qyym>

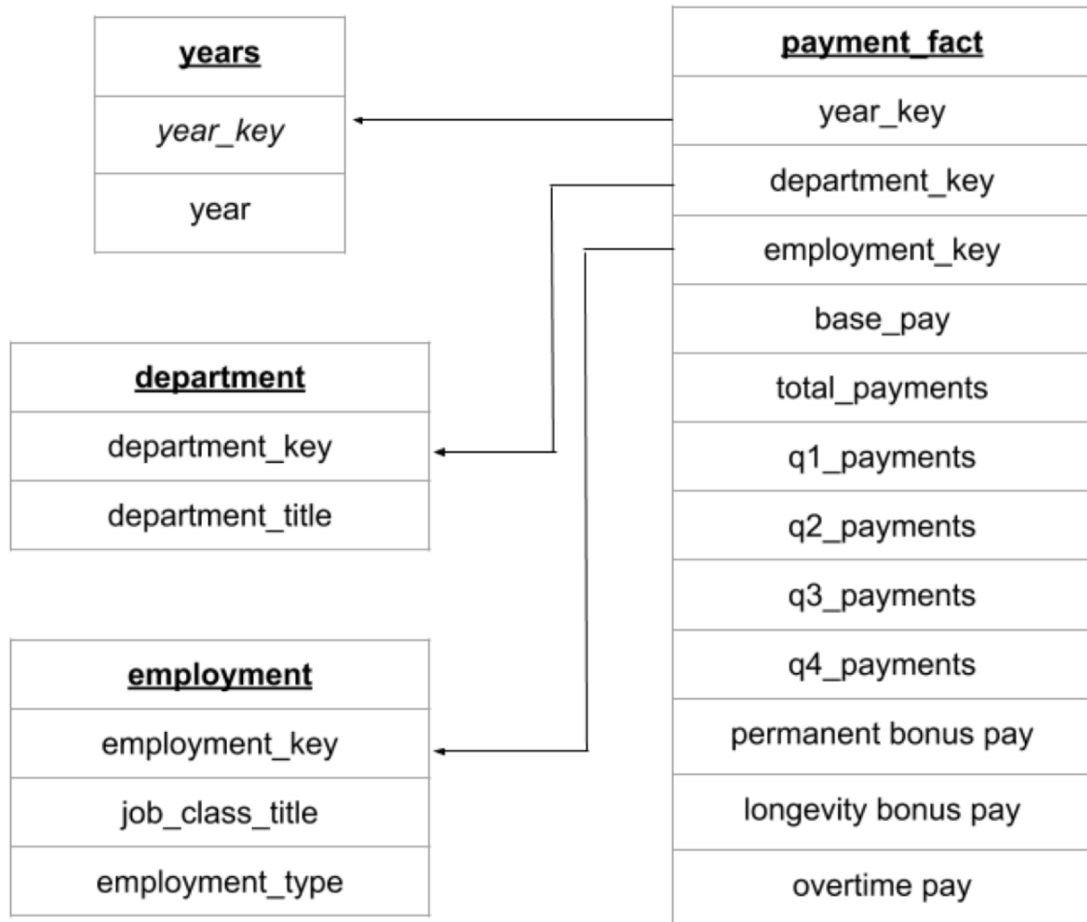
# Tools we Utilize

- Data preprocessing: pandas, Trifacta
  - Null values
  - Unnecessary columns
  - Odd punctuations
- Analysis: Spark, PostgreSQL
- Visualization: matplotlib, Tableau

# Analysis framework



# Star Schema



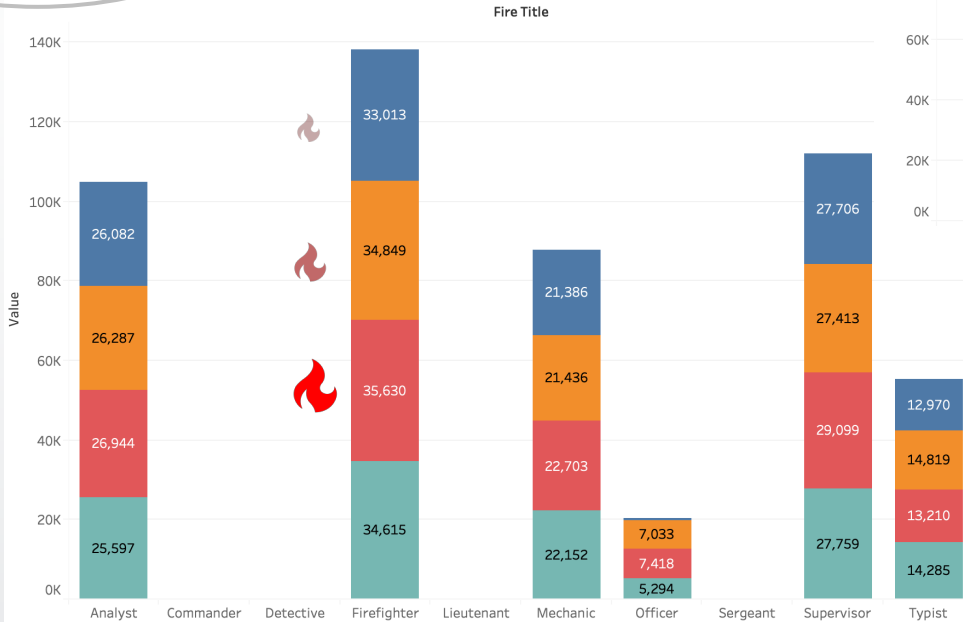
# Year & Department

department_title	average_overtime_payment
Fire	45187.04
Water And Power (DWP)	14137.32
Airports	9051.36
Building and Safety	7869.30
Public Works - Street Services	7586.63
Transportation	7556.04
Transportation (LADOT)	7068.45
Police	6661.13
Public Works - Street Lighting	4591.55
Harbor	4521.79

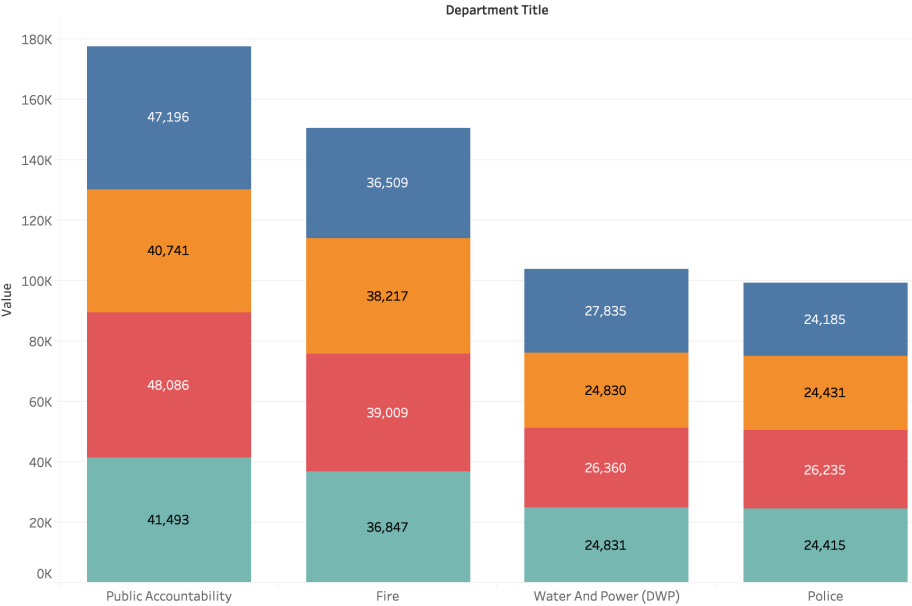
- Little difference over years.
- **Public Accountability, Fire, City Attorney** ranked top 3 in average total payment.
- **Public Accountability's base pay** is significantly higher than other departments.
- **LAFD** has a significantly higher **overtime pay**.
- **Senior jobs** have a lot of **permanent bonus** than entry-level positions.
- **Full-time** has the highest average payment.  
For the **Part-time** group, a lot of these departments are for public facilities.  
For the **Pre-event** group, most of the departments in the rank are seasonal jobs.

# Seasonality & Job Title

Seasonality over ten job positions in LAFD

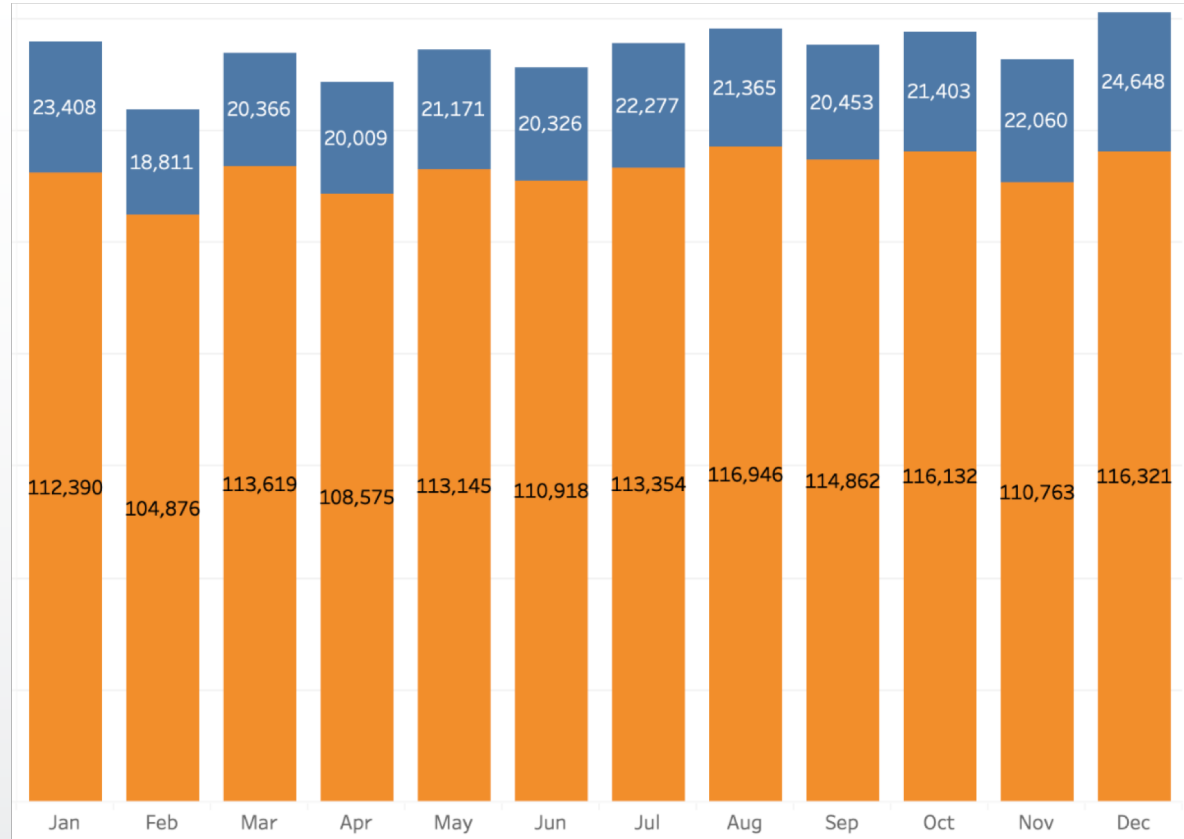


Seasonality over departments



# Analysis into LAFD

- “All Stations Response Metrics”
- From 2013 to 2016
- **NO** clear seasonality pattern
- Opposite to what we originally expect.





**Thanks!**

