



PROJECT - 2

Salaries for San Francisco Employee

Problem Statement: This Project aims to clarify the complexities of the employee compensation in San Francisco, including base salary, overtime, and benefits. By identifying trends and pay structures across roles, it supports informed city planning and budget decisions.

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Objective: Comprehensive Salary Data Analysis

Discover Trends

Trace salary changes across years and departments.

Identify Key Roles

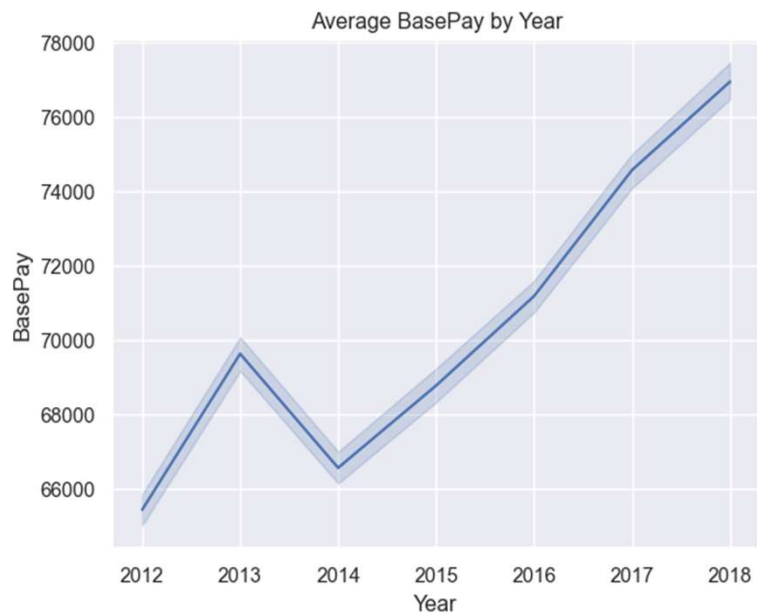
Highlight top-paying and most frequent jobs.

Analyze Correlations

Understand factors impacting salaries.

Predict Salaries

Build models for equitable pay adjustments.



Salary Trends by Year (2014-2018)



Increasing Salaries

Average salary rose steadily from 2014 to 2018.



Key Drivers

Inflation and city budget growth likely influenced rises.



Policy Impact

Salary adjustments align with city workforce plans.

Top 5 Job Titles by Frequency

Transit Operator

Highest number of employees in this role.

Firefighter

Supports various city departments effectively.

Special Nurse

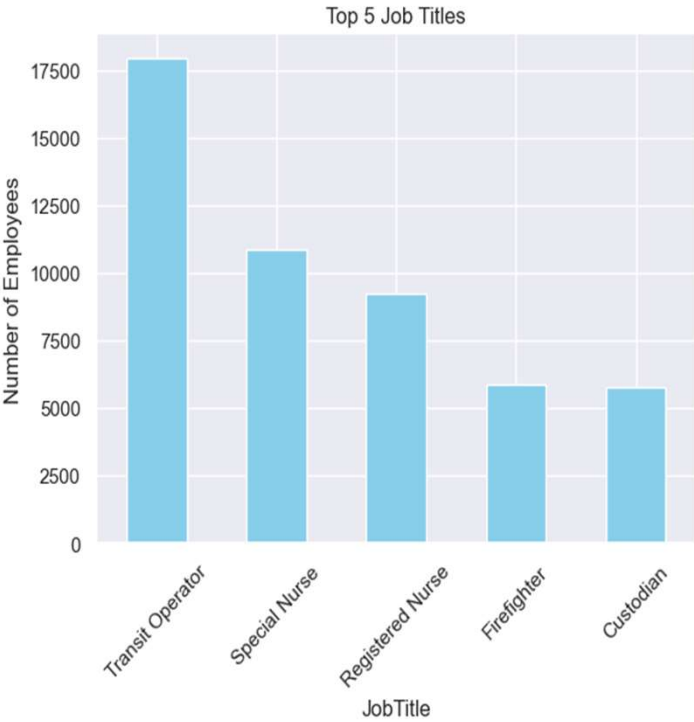
Second highest number of employees in this role.

Custodian

Maintains cleanliness across city facilities.

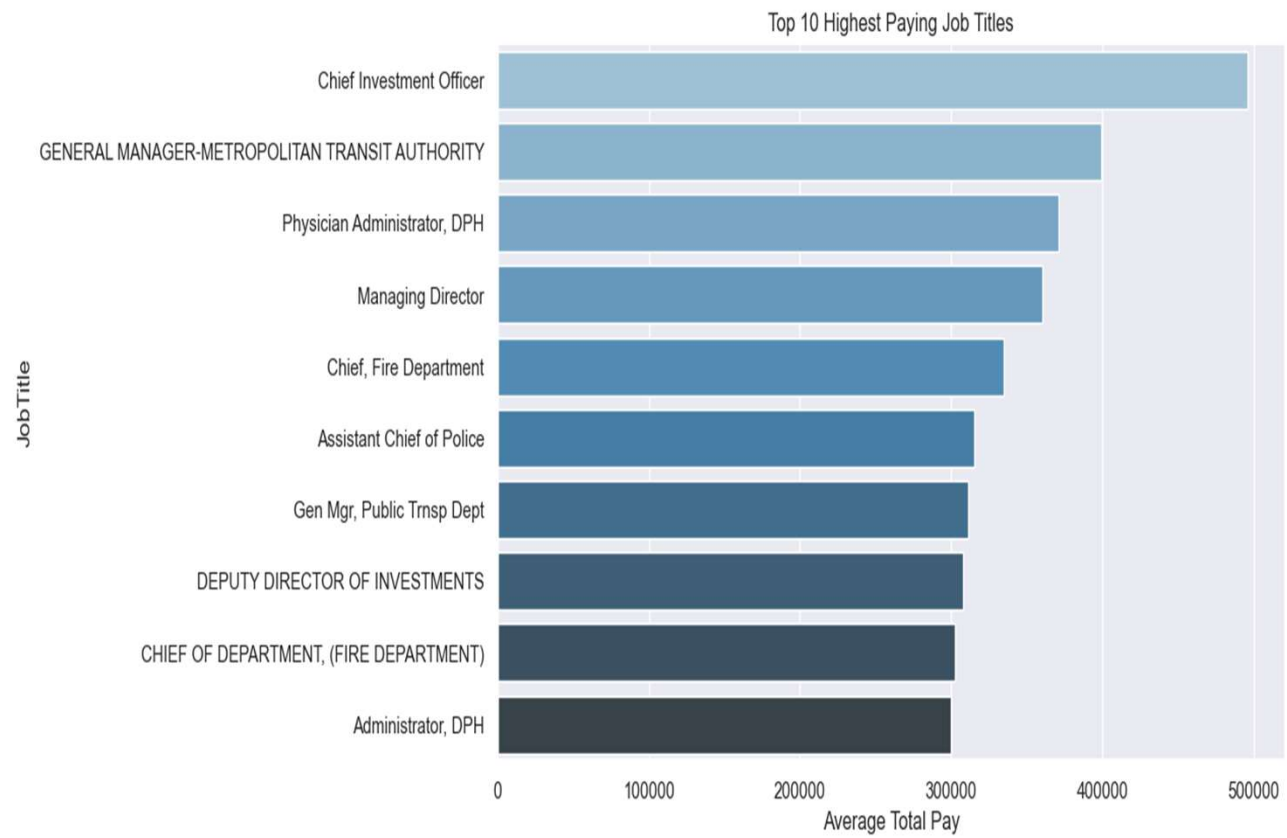
Registered Nurse

Large health sector presence in city jobs.



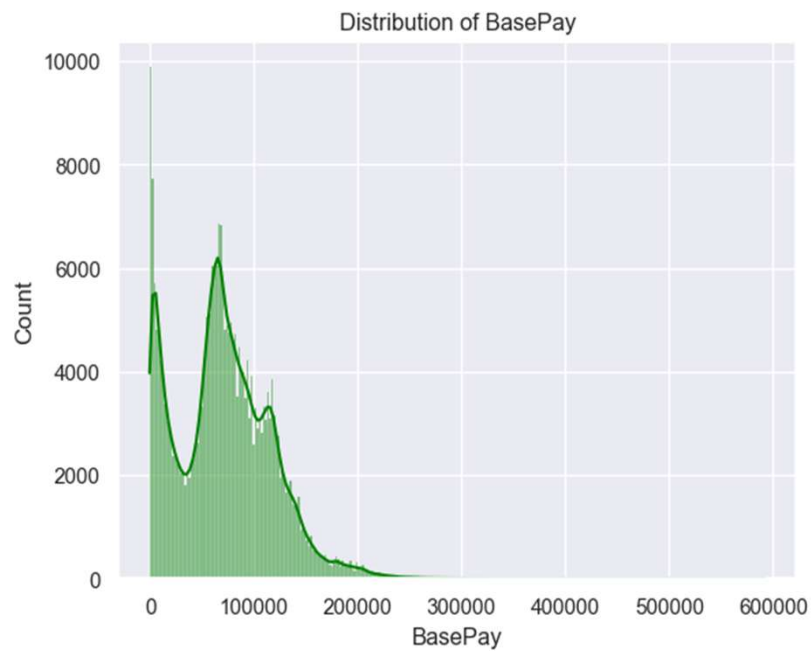
Top 10 Highest Paying Job Titles

Chief Investment Officer
General Manager
Physician Administrator, DPH
Managing Director
Chief, Fire Department
Assistant Chief of Police
Gen Mgr, Public Trnsp Dept
Deputy Director of Investments
Chief of Fire Department
Administrator, DPH



Salary Distribution

Salary Range
Wide range from low to high salaries.



Median Salary

Central value indicating typical employee pay.

Skewness

Distribution skewed toward higher salaries.

Correlation Heatmap: Factors Influencing Salary



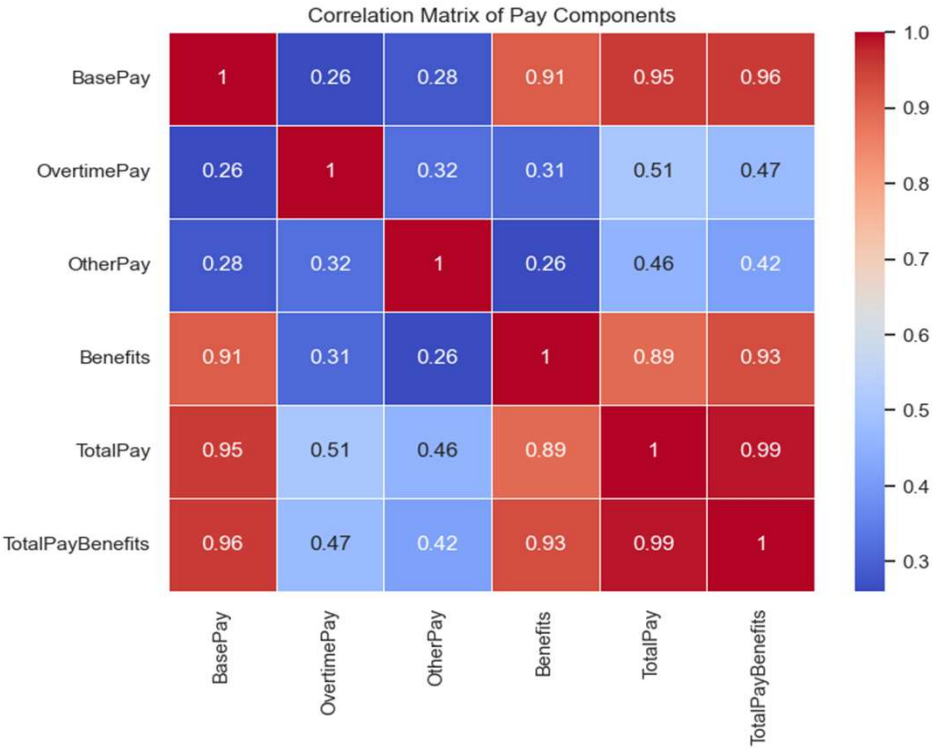
Positive Correlations

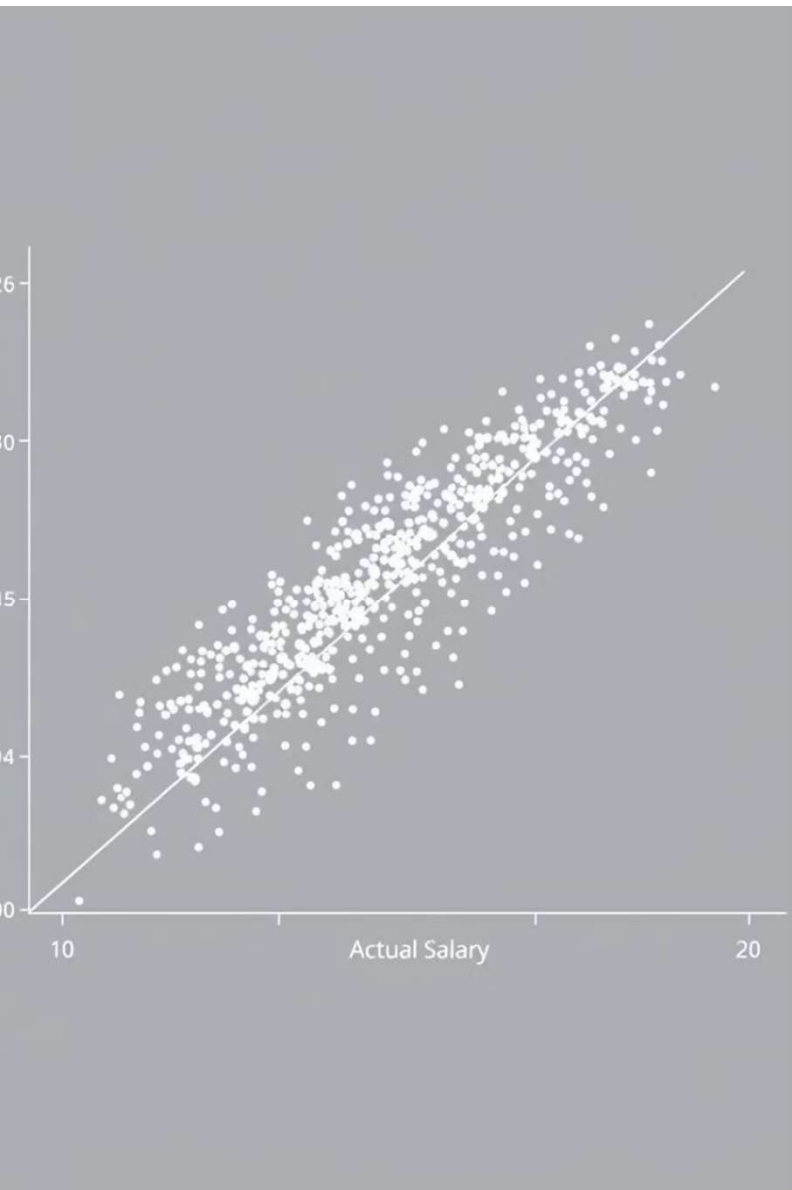
Strong positive correlations between TotalPay and TotalPayBenefits.



Negative Correlations

Lower correlations with OvertimePay and BasePay.





Linear Regression Model: Salary Salary Prediction

Model Inputs

TotalPayBenefits, BasePay, and OverTimePay used.

Model Accuracy

R-squared of 1.0 indicating perfect perfect fit.

Performance Metrics

MAE shows minimal average prediction error.



Insights and Recommendations

Recommendations

Salary Growth Strong

Steady increase from 2014 to 2018 observed.

Frequent Roles

Transit Operators and Nurses dominate workforce.

Model Confirmation

Predictive model supports data-backed pay adjustments.

Structural Refinement

Adjust salaries based on experience and performance.



Conclusion

- ☐ Data helps us understand how salaries are changing—and where people may be facing unfair gaps or disparities.
- ☐ Helps ensure everyone is paid fairly and equitably for the work they do.
- ☐ Boosts team spirit and shows people they can trust your company.
- ☐ Keeping an eye on things regularly helps ensure everyone is treated—and paid—fairly.

