

# SF Salaries Analysis Documentation

## 1. Introduction

The **SF Salaries** project analyzes the salary and compensation structure of **San Francisco city employees** from 2011 to 2014. By leveraging **SQL queries**, we explore trends in employee pay, job titles, overtime compensation, and managerial roles. This data-driven approach helps understand how government salaries are structured and how different roles are compensated over time.

## 2. Objectives

- Analyze **salary trends** among city employees.
- Identify **high-paying job titles** and compensation structures.
- Examine **overtime pay** distribution.
- Find insights on **managers and directors** in the dataset.
- Provide data-driven recommendations for **salary optimization and budgeting**.

## 3. Data Overview

This dataset contains:

- Employee Names**
- Job Titles**
- Base Pay**
- Overtime Pay**
- Other Pay**
- Total Pay** (sum of all pay components)
- Total Pay with Benefits** (includes additional compensations)

## 4. SQL Queries & Analysis

Basic Queries:

- Show all columns and rows in the table.

```
select * from salaries;
```

	Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	Benefits	TotalPay	TotalPayBenefits	Year	Agency	Status
▶	1	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT ...	167411.18	0	400184.25		567595.43	567595.43	2011	San Francisco	
	2	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)	155966.02	245131.88	137811.38		538909.28	538909.28	2011	San Francisco	
	3	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)	212739.13	106088.18	16452.6		335279.91	335279.91	2011	San Francisco	
	4	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC	77916	56120.71	198306.9		332343.61	332343.61	2011	San Francisco	
	5	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT,(FIRE DEPART...	134401.6	9737	182234.59		326373.19	326373.19	2011	San Francisco	
	6	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II	118602	8601	189082.74		316285.74	316285.74	2011	San Francisco	
	7	ALSON LEE	BATTALION CHIEF, (FIRE DEPARTMENT)	92492.01	89062.9	134426.14		315981.05	315981.05	2011	San Francisco	
	8	DAVID KUSHNER	DEPUTY DIRECTOR OF INVESTMENTS	256576.96	0	51322.5		307899.46	307899.46	2011	San Francisco	
	9	MICHAEL MORRIS	BATTALION CHIEF, (FIRE DEPARTMENT)	176932.64	86362.68	40132.23		303427.55	303427.55	2011	San Francisco	

2. Display **Employee Name** and **Job Title**.

```
select EmployeeName, JobTitle from salaries;
```

	EmployeeName	JobTitle
▶	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT ...
	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)
	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)
	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC
	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT,(FIRE DEPART...
	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II

3. Count the total number of employees.

```
select count(*) from salaries;
```

	count(*)
▶	148045

4. Identify all **unique job titles**.

```
select distinct JobTitle from salaries;
```

	JobTitle
▶	GENERAL MANAGER-METROPOLITAN TRANSIT ...
	CAPTAIN III (POLICE DEPARTMENT)
	WIRE ROPE CABLE MAINTENANCE MECHANIC
	DEPUTY CHIEF OF DEPARTMENT,(FIRE DEPART...
	ASSISTANT DEPUTY CHIEF II
	BATTALION CHIEF, (FIRE DEPARTMENT)

#### Intermediate Queries:

5. Retrieve **job title and overtime pay** for all employees.

```
select JobTitle,OvertimePay from salaries  
where OvertimePay >50000 ;
```

	JobTitle	OvertimePay
▶	CAPTAIN III (POLICE DEPARTMENT)	245131.88
	CAPTAIN III (POLICE DEPARTMENT)	106088.18
	WIRE ROPE CABLE MAINTENANCE MECHANIC	56120.71
	BATTALION CHIEF, (FIRE DEPARTMENT)	89062.9
	BATTALION CHIEF, (FIRE DEPARTMENT)	86362.68
	ASSISTANT CHIEF OF DEPARTMENT, (FIRE DEP...	71344.88

6. Calculate **average base pay** across all employees.

```
select avg(BasePay) as Avg_BasePay from salaries;  
select round(avg(BasePay),2) as Avg_BasePay from salaries;
```

	Avg_BasePay
▶	66325.44884050643

7. Find the **top 10 highest-paid employees**.

```
select EmployeeName,TotalPay from salaries  
order by TotalPay desc  
limit 10;
```

	EmployeeName	TotalPay
▶	NATHANIEL FORD	567595.43
	GARY JIMENEZ	538909.28
	David Shinn	471952.64
	Amy P Hart	390111.98
	Gary Altenberg	362844.66
	John Goldberg	350403.41

8. Compute the average of **Base Pay, Overtime Pay, and Other Pay** per employee.

```
select EmployeeName,(BasePay+OvertimePay+OtherPay)/3 as Avg_emp  
from salaries;
```

	EmployeeName	Avg_emp
▶	NATHANIEL FORD	189198.47666666665
	GARY JIMENEZ	179636.42666666667
	ALBERT PARDINI	111759.96999999999
	CHRISTOPHER CHONG	110781.20333333332
	PATRICK GARDNER	108791.06333333334
	DAVID SULLIVAN	105428.58

9. List employees with "**Manager**" in their job title.

```
select EmployeeName,JobTitle from salaries  
where JobTitle like '%Manager%';
```

	EmployeeName	JobTitle
▶	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT
	EDWARD REISKIN	GENERAL MANAGER-METROPOLITAN TRANSIT
	KEVIN BARRY	MANAGER VII
	MIVIC HIROSE	MANAGER VIII
	JULIE LABONTE	MANAGER VIII
	AMPARO RODRIGUEZ	NURSE MANAGER

10. Show employees with job titles **excluding "Manager"**.

```
select EmployeeName,JobTitle from salaries
where JobTitle <>'Manager';
```

	EmployeeName	JobTitle
▶	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT ...
	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)
	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)
	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC
	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT,(FIRE DEPART...
	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II

#### Advanced Queries:

11. Retrieve employees with a **total pay between \$50,000 and \$75,000**.

```
select EmployeeName,TotalPay from salaries
where TotalPay>=50000 and TotalPay<= 75000;
```

	EmployeeName	TotalPay
▶	NATHANIEL FORD	567595.43
	GARY JIMENEZ	538909.28
	ALBERT PARDINI	335279.91
	CHRISTOPHER CHONG	332343.61
	PATRICK GARDNER	326373.19
	DAVID SULLIVAN	316285.74

12. Find employees with **base pay under \$50,000 or total pay over \$100,000**.

```
select EmployeeName,BasePay,TotalPay from salaries
where BasePay < 50000 or TotalPay > 100000;
```

	EmployeeName	BasePay	TotalPay
▶	NATHANIEL FORD	167411.18	567595.43
	GARY JIMENEZ	155966.02	538909.28
	ALBERT PARDINI	212739.13	335279.91
	CHRISTOPHER CHONG	77916	332343.61
	PATRICK GARDNER	134401.6	326373.19
	DAVID SULLIVAN	118602	316285.74

13. Identify employees with **total pay benefits between \$125,000 and \$150,000** and **"Director"** in their job title.

```
select * from salaries
where TotalPayBenefits between 125000 and 150000
and JobTitle LIKE "%Director%";
```

	Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	Benefits	TotalPay	TotalPayBenefits	Year	Agency	Status
▶	2406	ANA ALVAREZ	DEPUTY DIRECTOR II	138204.53	0	9316.04		147520.57	147520.57	2011	San Francisco	
	2495	ELAINE FORBES	DEPUTY DIRECTOR III	146718.76	0	0		146718.76	146718.76	2011	San Francisco	
	2670	ALLISON MAGEE	DEPUTY DIRECTOR III	138563.65	0	5891.4		144455.05	144455.05	2011	San Francisco	
	2672	NOELLE SIMMONS	DEPUTY DIRECTOR II	141161.24	0	3290.3		144451.54	144451.54	2011	San Francisco	
	2977	DONALD ELLISON	DEPUTY DIRECTOR I - MUNICIPAL TRANSPORT...	140038.63	0	1039.43		141078.06	141078.06	2011	San Francisco	
	3232	MARTIN TARAS	IS PROJECT DIRECTOR	137483.61	0	1090		138573.61	138573.61	2011	San Francisco	
	3233	JOEY MARIN	DEPUTY DIRECTOR II	138126.44	0	2823.44		138126.44	138126.44	2011	San Francisco	

14. Rank employees by **total pay benefits in descending order**.

```
select * from salaries
order by TotalPayBenefits desc;
```

	Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	Benefits	TotalPay	TotalPayBenefits	Year	Agency	Status
▶	1	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT ...	167411.18	0	400184.25		567595.43	567595.43	2011	San Francisco	
	2	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)	155966.02	245131.88	137811.38		538909.28	538909.28	2011	San Francisco	
	110532	David Shinn	Deputy Chief 3	129150.01	0	342802.63	38780.04	471952.64	510732.68	2014	San Francisco	PT
	110533	Amy P Hart	Asst Med Examiner	318835.49	10712.95	60563.54	89540.23	390111.98	479652.21	2014	San Francisco	FT
	110534	William J Coaker Jr.	Chief Investment Officer	257340	0	82313.7	96570.66	339653.7	436224.36	2014	San Francisco	PT
	72926	Gregory P Suhr	Chief of Police	319275.01	0	20007.06	86533.21	339282.07	425815.28	2013	San Francisco	
	72927	Joanne M Hayes-White	Chief, Fire Department	313686.01	0	23236	85431.39	336922.01	422353.4	2013	San Francisco	
	110535	Gregory P Suhr	Chief of Police	307450.04	0	19266.72	91302.46	326716.76	418019.22	2014	San Francisco	FT
	110536	Joanne M Hayes-White	Chief, Fire Department	302068	0	24165.44	91201.66	326233.44	417435.1	2014	San Francisco	FT

15. List job titles with **average base pay of at least \$100,000**, ordered from highest to lowest.

```
select JobTitle, avg(BasePay) as 'avg_basepay' from salaries
group by JobTitle
having avg(BasePay) >=100000
order by avg_basepay desc;
```

	JobTitle	avg_basepay
▶	Chief, Fire Department	304232.34
	Gen Mgr, Public Trnsp Dept	297769.41333333333
	CHIEF OF POLICE	296443.365
	CHIEF OF DEPARTMENT, (FIRE DEPARTMENT)	285262
	Dep Dir for Investments, Ret	276153.765
	Adm, SFGH Medical Center	265218.78

## 5. Key Insights

### Salary Trends & Compensation

- The **highest-paid employees** often hold **executive or managerial positions**.
- Employees with **overtime pay** can significantly increase their total compensation.
- Certain job titles consistently earn **base salaries exceeding \$100,000**.

### Management & Job Titles

- A **large number of employees** have the title "Manager", indicating a structured leadership hierarchy.
- Directors and executives receive **high total compensation, including benefits**.

### Budgeting & Financial Planning

- Employees earning **over \$125,000 with high benefits** should be evaluated for budget efficiency.
- Removing employees with **no overtime pay** might optimize workforce expenses.

## 6. Recommendations

1. **Salary Optimization:** Adjust salaries for positions with **excessive overtime reliance**.
2. **Budget Analysis:** Assess if **highly compensated directors** align with budget priorities.
3. **Job Role Review:** Evaluate job roles where **base pay exceeds industry standards**.
4. **Policy Adjustments:** Implement structured **overtime regulations** to control payroll costs.
5. **Hiring Decisions:** Balance new hires between **highly paid roles and essential workforce needs**.

## 7. Conclusion

The **SF Salaries** project provides **valuable insights** into government employee compensation, helping city officials and budget planners make **data-driven decisions**. SQL-based queries allow for **deep salary analysis**, guiding workforce management and financial strategies for better public resource allocation.