# Government of New Brunswick Expenditures

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## 1. Introduction

Ministry-specific expenditures refer to the allocation and utilization of financial resources by various government ministries or divisions. This procedure is an essential part of any country's budgeting and financial management. The government allots funding to several ministries in order for them to carry out specified responsibilities and achieve policy goals. By utilizing PostgreSQL to analyze the dataset of New Brunswick's government expenditure on several ministries, it is possible to comprehend spending trends in government and make data-driven decisions. To properly lead our analysis, we need set concrete targets. Here are a few possible goals for your research.

## 2. Goals

- **Analysis that is ministry-specific:** Look into the spending patterns of particular ministries throughout time. Pick the ministries with the biggest and smallest budgets. Look into the factors affecting budget changes within specific ministries.

- **Expenditure Trends:** Look into yearly spending trends in the government, such as increases or cutbacks. Examine your spending to check for any cyclical or seasonal tendencies.

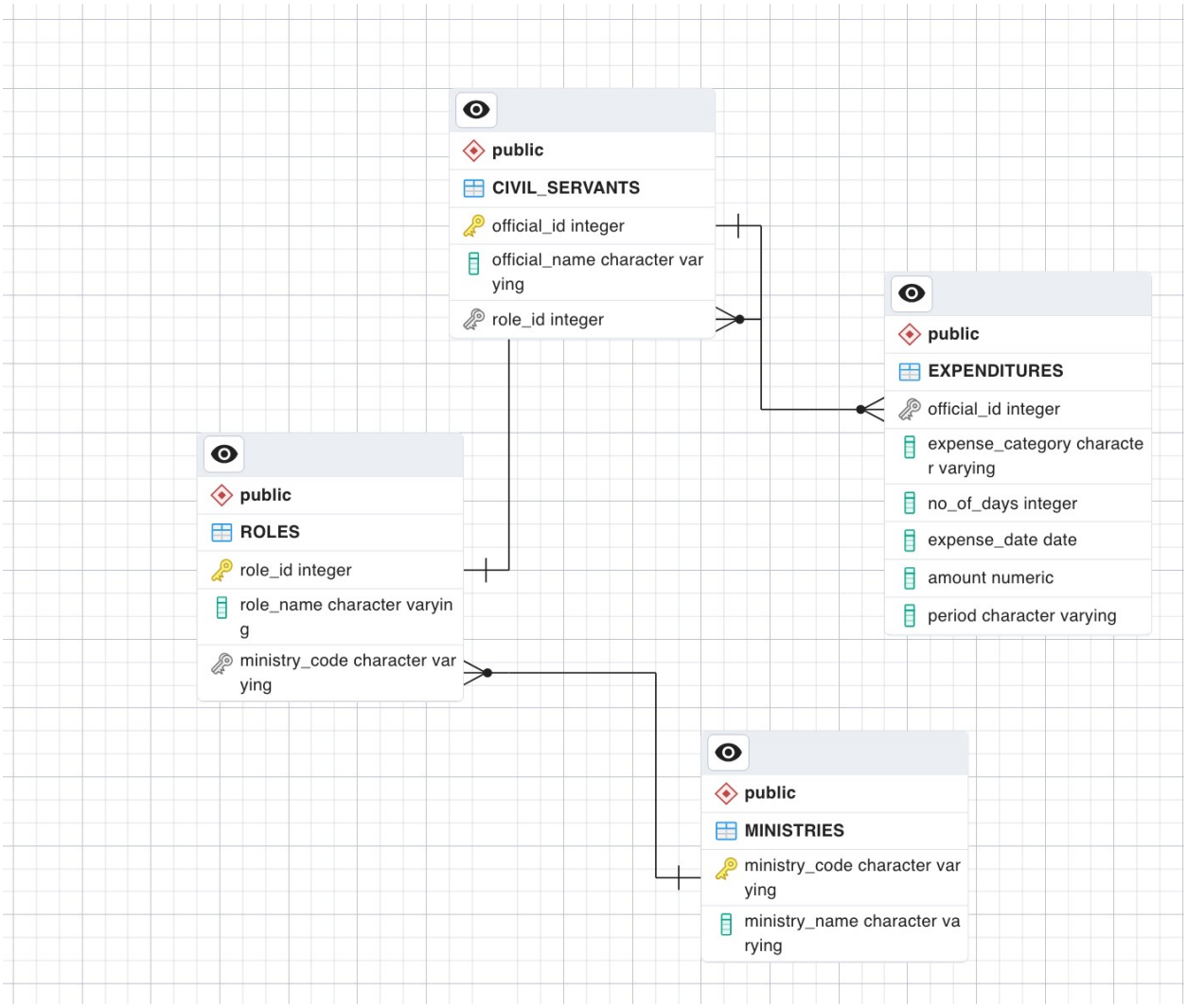
- **Financial projections:** Utilize historical data to forecast future government spending for various ministries. Compare these projections to actual spending to determine how accurate they are.

- **For benchmarking and policy insights**, contrast New Brunswick's government spending with those of other Canadian provinces or regions.

- **Expense categories:** For spending more on infrastructure, healthcare, and education and to look into the allocation of the funds among various departments.

## 3. Entity Relationship Diagram

The ER Diagram portrays the relationships between each table in the GOVT_EXPENDITURES database.



## 4. Database Creation

```
CREATE DATABASE GOVT_EXPENDITURES
    WITH
    OWNER = postgres
    ENCODING = 'UTF8'
    LC_COLLATE = 'C'
    LC_CTYPE = 'C'
    TABLESPACE = pg_default
    CONNECTION LIMIT = -1
    IS_TEMPLATE = False;
```

## 5. Schema Creation

```
CREATE SCHEMA Expenditures
    AUTHORIZATION postgres;
```

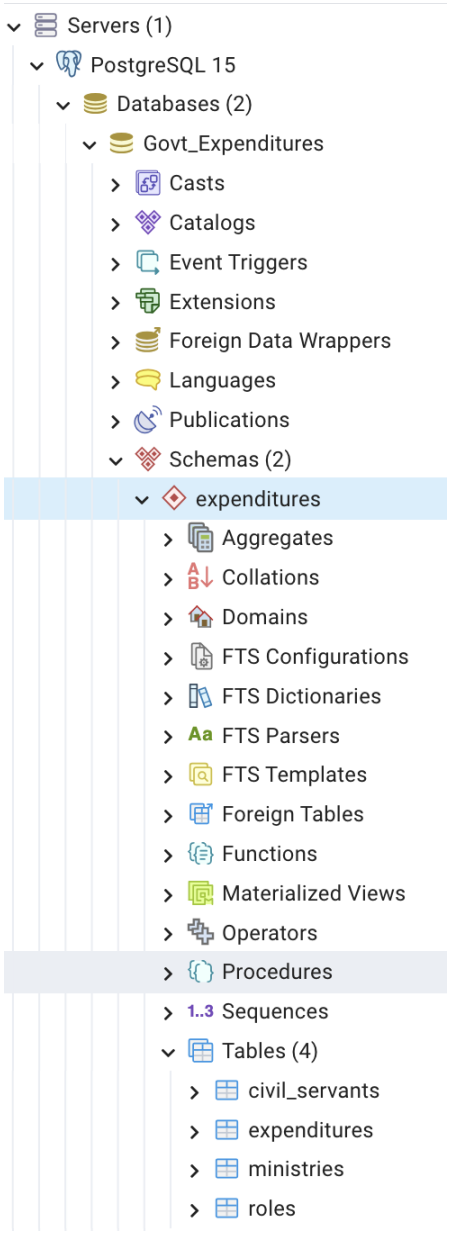
## 6. Table Defnitions

```
BEGIN;
CREATE TABLE IF NOT EXISTS Expenditures.CIVIL_SERVANTS
(
    official_id integer,
    official_name character varying,
    role_id integer,
    PRIMARY KEY (official_id)
);
CREATE TABLE IF NOT EXISTS Expenditures.ROLES
(
    role_id integer,
```

```
    role_name character varying,
    ministry_code character varying,
    PRIMARY KEY (role_id)
);
CREATE TABLE IF NOT EXISTS Expenditures.MINISTRIES
(
    ministry_code character varying,
    ministry_name character varying,
    PRIMARY KEY (ministry_code)
);
CREATE TABLE IF NOT EXISTS Expenditures.EXPENDITURES
(
    official_id integer,
    expense_category character varying,
    no_of_days integer,
    expense_date date,
    amount numeric,
    period character varying
);

ALTER TABLE IF EXISTS Expenditures.CIVIL_SERVANTS
    ADD FOREIGN KEY (role_id)
    REFERENCES Expenditures.ROLES (role_id) MATCH SIMPLE
    ON UPDATE NO ACTION
    ON DELETE NO ACTION
    NOT VALID;
ALTER TABLE IF EXISTS Expenditures.ROLES
    ADD FOREIGN KEY (ministry_code)
    REFERENCES Expenditures.MINISTRIES (ministry_code) MATCH SIMPLE
    ON UPDATE NO ACTION
    ON DELETE NO ACTION
```

```
    NOT VALID;
ALTER TABLE IF EXISTS Expenditures.EXPENDITURES
    ADD FOREIGN KEY (official_id)
    REFERENCES Expenditures.CIVIL_SERVANTS (official_id) MATCH SIMPLE
    ON UPDATE NO ACTION
    ON DELETE NO ACTION
    NOT VALID;
END;
```



## 7. Data Cleaning

Cleaning government expenditures data for an SQL project involves preparing the data to be stored in a relational database. Here are the steps to clean and structure the data for an SQL project:

Step 1: Raw file was obtained from https://open.canada.ca/en and the source data taken for this project is Government of New Brunswick, ministries based expenditures

Step 2: Imported the data into PostgreSQL database management system and examined the columns that are going to be used for analysis. Columns that will not be used are removed manually from the source file.

Step 3: To ensure clarity and uniformity, the column names were standardised. For multi-word column names (such as ministry_name and expenditure_amount), use underscores or CamelCase.

Step 4: Made sure the data types are acceptable for each column (for example, using numbers for amounts and dates for dates columns).

Step 5: To ensure correctness, cross-check the cleaned data with the original sources after.

## 8. Data Population (INSERT queries attached)

# 9. Analysis

## Query1:

```
SELECT C.OFFICIAL_ID,
    C.OFFICIAL_NAME,
    R.ROLE_NAME,
    M.MINISTRY_NAME
FROM EXPENDITURES.CIVIL_SERVANTS C
INNER JOIN EXPENDITURES.ROLES R ON C.ROLE_ID = R.ROLE_ID
INNER JOIN EXPENDITURES.MINISTRIES M ON R.MINISTRY_CODE = M.MINISTRY_CODE
```

Data Output | Messages | Notifications

| | official_id integer | official_name character varying | role_name character varying | ministry_name character varying |
|---|---|---|---|---|
| 1 | 8909021 | DANIEL J ALLAIN | Minister | Environment and Local Government |
| 2 | 8909022 | JOSH ASTLE | Regional Assistant | Transportation and Infrastructure |
| 3 | 8909023 | ERIC BEAULIEU | Deputy Minister | Social Development |
| 4 | 8909024 | MATHIEU G CAISSIE | Regional Assistant | Environment and Local Government |
| 5 | 8909025 | DOMINIC CARDY | Minister | Education and Early Childhood Development |
| 6 | 8909026 | CAL CIPOLLA | Regional Assistant | Justice and Public Safety |
| 7 | 8909027 | GARY CROSSMAN (HON.) | Minister | Environment and Local Government |
| 8 | 8909028 | SOPHIE D AMOUR | Regional Assistant | Education and Early Childhood Development |
| 9 | 8909029 | GEORGE DALEY | Deputy Minister | Education and Early Childhood Development |
| 10 | 8909030 | RYAN DONAGHY | Deputy Minister | Environment and Local Government |
| 11 | 8909031 | BRUCE FITCH | Minister | Social Development |
| 12 | 8909032 | HUGH J FLEMMING | Minister | Justice and Public Safety |
| 13 | 8909033 | JILL GREEN | Minister | Transportation and Infrastructure |
| 14 | 8909034 | RON HATFIELD | Regional Assistant | Natural Resources and Energy Development |
| 15 | 8909035 | TREVOR HOLDER | Minister | Post-Secondary Education, Training and Labour |
| 16 | 8909036 | MICHAEL HOLLAND | Minister | Natural Resources and Energy Development |
| 17 | 8909037 | YENNAH HURLEY | Deputy Minister | Tourism, Heritage and Culture |
| 18 | 8909038 | MARCEL J LAVOIE | Deputy Minister | Education and Early Childhood Development |
| 19 | 8909039 | JOHN P LOGAN | Deputy Minister | Transportation and Infrastructure |
| 20 | 8909040 | THOMAS M MACFARLANE | Deputy Minister | Natural Resources and Energy Development |
| 21 | 8909041 | DANIEL J MILLS | Deputy Minister | Post-Secondary Education, Training and Labour |
| 22 | 8909042 | MICHAEL SHAWN MORRISON | Regional Assistant | Environment and Local Government |
| 23 | 8909043 | ANDREW RUSSELL | Regional Assistant | Tourism, Heritage and Culture |
| 24 | 8909044 | TAMMY SCOTT-WALLACE | Minister | Tourism, Heritage and Culture |
| 25 | 8909045 | WILLIAM R SEELY | Regional Assistant | Social Development |

| **Insight 1** |
|---|
| Displaying all the officials along with their roles and the ministries they belong to |

**Query 2:**

```
SELECT M.MINISTRY_NAME,
    SUM(AMOUNT) AS TOTAL_EXPENSE
FROM EXPENDITURES.EXPENDITURES E
INNER JOIN EXPENDITURES.CIVIL_SERVANTS C ON E.OFFICIAL_ID = C.OFFICIAL_ID
INNER JOIN EXPENDITURES.ROLES R ON C.ROLE_ID = R.ROLE_ID
INNER JOIN EXPENDITURES.MINISTRIES M ON R.MINISTRY_CODE = M.MINISTRY_CODE
GROUP BY M.MINISTRY_NAME
```

Data Output | Messages | Notifications

| | ministry_name character varying | total_expense numeric |
|---|---|---|
| 1 | Social Development | 6222.45 |
| 2 | Environment and Local Government | 4959.52 |
| 3 | Post-Secondary Education, Training and Labour | 3737.12 |
| 4 | Tourism, Heritage and Culture | 3309.65 |
| 5 | Justice and Public Safety | 1708.03 |
| 6 | Education and Early Childhood Development | 2222.26 |
| 7 | Transportation and Infrastructure | 4225.71 |
| 8 | Natural Resources and Energy Development | 4593.36 |

**Insight 2**

Viewing the overall expenditures ministry-wise in the three months

**Query 3:**

```
SELECT EXPENSE_CATEGORY,
    SUM(AMOUNT) AS TOTAL_EXPENSE
FROM EXPENDITURES.EXPENDITURES
GROUP BY EXPENSE_CATEGORY
ORDER BY TOTAL_EXPENSE DESC
LIMIT 5
```

Data Output | Messages | Notifications

| | expense_category character varying | total_expense numeric |
|---|---|---|
| 1 | Monthly expense allowance | 9660.00 |
| 2 | Living Allowance | 8595.00 |
| 3 | Lodging in NB | 4058.28 |
| 4 | Car allowance (Deputy) | 2234.16 |
| 5 | Business meetings in NB | 2184.92 |

**Insight 3**

Filtering out top 5 categories with their expenses, where the spend was more overall

## Query 4:

Query | Query History

```
1  select official_id,
2  case when LENGTH(REPLACE(official_name,' ','~'))-LENGTH(REPLACE(official_name,' ',''))=1
3  then SPLIT_PART(official_name, ' ', 1)
4  when LENGTH(REPLACE(official_name,' ','~'))-LENGTH(REPLACE(official_name,' ',''))>1
5  then SPLIT_PART(official_name, ' ', 1)
6  end as first_name,
7  case when LENGTH(REPLACE(official_name,' ','~'))-LENGTH(REPLACE(official_name,' ',''))=1
8  then ''
9  when LENGTH(REPLACE(official_name,' ','~'))-LENGTH(REPLACE(official_name,' ',''))>1
10 then SPLIT_PART(official_name, ' ', 2)
11 end as middle_name,
12 case when LENGTH(REPLACE(official_name,' ','~'))-LENGTH(REPLACE(official_name,' ',''))=1
13 then SPLIT_PART(official_name, ' ', 2)
14 when LENGTH(REPLACE(official_name,' ','~'))-LENGTH(REPLACE(official_name,' ',''))>1
15 then SPLIT_PART(official_name, ' ', 3)  end as last_name, role_id
16 from expenditures.civil_servants
```

Data Output | Messages | Notifications

| | official_id [PK] integer | first_name text | middle_name text | last_name text | role_id integer |
|---|---|---|---|---|---|
| 1 | 8909021 | DANIEL | J | ALLAIN | 101 |
| 2 | 8909022 | JOSH | | ASTLE | 112 |
| 3 | 8909023 | ERIC | | BEAULIEU | 115 |
| 4 | 8909024 | MATHIEU | G | CAISSIE | 118 |
| 5 | 8909025 | DOMINIC | | CARDY | 107 |
| 6 | 8909026 | CAL | | CIPOLLA | 119 |
| 7 | 8909027 | GARY | CROSSMAN | (HON.) | 101 |
| 8 | 8909028 | SOPHIE | D | AMOUR | 109 |
| 9 | 8909029 | GEORGE | | DALEY | 103 |
| 10 | 8909030 | RYAN | | DONAGHY | 104 |
| 11 | 8909031 | BRUCE | | FITCH | 111 |
| 12 | 8909032 | HUGH | J | FLEMMING | 102 |
| 13 | 8909033 | JILL | | GREEN | 108 |
| 14 | 8909034 | RON | | HATFIELD | 122 |
| 15 | 8909035 | TREVOR | | HOLDER | 117 |
| 16 | 8909036 | MICHAEL | | HOLLAND | 116 |
| 17 | 8909037 | YENNAH | | HURLEY | 121 |
| 18 | 8909038 | MARCEL | J | LAVOIE | 103 |
| 19 | 8909039 | JOHN | P | LOGAN | 110 |
| 20 | 8909040 | THOMAS | M | MACFARLANE | 120 |
| 21 | 8909041 | DANIEL | J | MILLS | 114 |
| 22 | 8909042 | MICHAEL | SHAWN | MORRISON | 118 |
| 23 | 8909043 | ANDREW | | RUSSELL | 106 |
| 24 | 8909044 | TAMMY | | SCOTT-WALLACE | 113 |
| 25 | 8909045 | WILLIAM | R | SEELY | 105 |

**Insight 4**

Displaying all the details from the civil_servants table with the officials name column splitted in to their first name, middle name and last name fields.

**Query 5:**

```
SELECT EXPENSE_CATEGORY,
    COUNT(EXPENSE_CATEGORY) AS FREQUENCY,
    SUM(NO_OF_DAYS) AS TOTAL_DAYS,
    MAX(AMOUNT) AS MAX_AMOUNT
FROM EXPENDITURES.EXPENDITURES
GROUP BY EXPENSE_CATEGORY
ORDER BY FREQUENCY DESC
```

Data Output | Messages | Notifications

| | expense_category character varying | frequency bigint | total_days bigint | max_amount numeric |
|---|---|---|---|---|
| 1 | Business meetings in NB | 22 | 23 | 488.58 |
| 2 | Lodging in NB | 17 | 23 | 955.00 |
| 3 | Monthly expense allowance | 14 | 14 | 690.00 |
| 4 | Daily meals in NB | 10 | 10 | 37.50 |
| 5 | Living Allowance | 9 | 9 | 955.00 |
| 6 | Lunch in NB | 8 | 8 | 10.50 |
| 7 | Kilometers | 8 | 8 | 71.75 |
| 8 | Senior Management Car Allowance | 6 | 6 | 267.73 |
| 9 | Car allowance (Deputy) | 4 | 4 | 558.54 |
| 10 | Parking in NB | 4 | 4 | 8.00 |
| 11 | Incidental expense in NB | 2 | 2 | 5.00 |
| 12 | Car allowance | 2 | 2 | 558.54 |
| 13 | Expense allowance (prorated) | 2 | 2 | 578.71 |
| 14 | Headquarters travel | 2 | 2 | 6.00 |
| 15 | Dinner in NB | 2 | 2 | 19.50 |
| 16 | Monthly Rental expense | 1 | 1 | 690.00 |
| 17 | Breakfast and Lunch in NB | 1 | 1 | 18.00 |
| 18 | Meals in NB | 1 | 1 | 28.00 |
| 19 | Other travel in NB | 1 | 1 | 8.00 |
| 20 | Gasoline in NB | 1 | 1 | 40.00 |
| 21 | Lunch and Dinner in NB | 1 | 1 | 30.00 |
| 22 | Breakfast in NB | 1 | 1 | 7.50 |
| 23 | Dinner in  NB | 1 | 2 | 39.00 |

**Insight 5**

Sorting based on how frequently expenses occur in a particular category along with the days and the maximum value spent in the 3 months on each category

**Query 6:**

```
WITH EXPENSE_PERIOD AS
    (SELECT E.PERIOD,
            SUM(E.AMOUNT) AS TOTAL_EXPENSE
        FROM EXPENDITURES.EXPENDITURES E
        INNER JOIN EXPENDITURES.CIVIL_SERVANTS C ON E.OFFICIAL_ID = C.OFFICIAL_ID
        INNER JOIN EXPENDITURES.ROLES R ON C.ROLE_ID = R.ROLE_ID
        INNER JOIN EXPENDITURES.MINISTRIES M ON R.MINISTRY_CODE = M.MINISTRY_CODE
        WHERE M.MINISTRY_NAME = 'Transportation and Infrastructure '
        GROUP BY E.PERIOD)
SELECT PERIOD,
    TOTAL_EXPENSE
FROM EXPENSE_PERIOD
WHERE TOTAL_EXPENSE =
        (SELECT MAX(TOTAL_EXPENSE)
            FROM EXPENSE_PERIOD)
```

Data Output | Messages | Notifications

| | period character varying | total_expense numeric |
|---|---|---|
| 1 | Sep-21 | 2073.42 |

**Insight 6**

Displaying the period and the corresponding spend value where the total expense was maximum in the ministry of Transportation and Infrastructure

**Query 7:**

```
SELECT C.OFFICIAL_NAME,
    SUM(E.NO_OF_DAYS) AS TOTAL_DAYS
FROM EXPENDITURES.CIVIL_SERVANTS C,
    EXPENDITURES.EXPENDITURES E
WHERE C.OFFICIAL_ID = E.OFFICIAL_ID
GROUP BY C.OFFICIAL_NAME
HAVING SUM(E.NO_OF_DAYS) >= 7
```

Data Output | Messages | Notifications

| | official_name character varying | total_days bigint |
|---|---|---|
| 1 | TAMMY SCOTT-WALLACE | 8 |
| 2 | GARY CROSSMAN (HON.) | 7 |
| 3 | YENNAH HURLEY | 8 |
| 4 | BRUCE FITCH | 7 |
| 5 | JOHN P LOGAN | 8 |

**Insight 7**

Displaying the officials whose expenses are at-least of 7 days in the overall expenses irrespective of the ministries

**Query 8:**

```
SELECT MINISTRY_CODE,
    MINISTRY_NAME
FROM EXPENDITURES.MINISTRIES
WHERE LOWER(MINISTRY_NAME) like '%development%'
```

Data Output | Messages | Notifications

| | ministry_code [PK] character varying | ministry_name character varying |
|---|---|---|
| 1 | E&ECD | Education and Early Childhood Development |
| 2 | NR&ED | Natural Resources and Energy Development |
| 3 | SD | Social Development |

**Insight 8**

Viewing the ministries details that are dedicated for the development- To increase the number of such ministries to boost the development.

**Query 9:**

Query | Query History

```
SELECT EXPENSE_DATE,
    COUNT(AMOUNT) AS EXPENSE_COUNT,
    SUM(AMOUNT) AS TOTAL_EXPENSE_AMOUNT
FROM EXPENDITURES.EXPENDITURES
GROUP BY EXPENSE_DATE
ORDER BY EXPENSE_COUNT DESC
LIMIT 10
```

Data Output | Messages | Notifications

| | expense_date date | expense_count bigint | total_expense_amount numeric |
|---|---|---|---|
| 1 | 2021-07-01 | 9 | 6804.66 |
| 2 | 2021-09-01 | 8 | 4635.41 |
| 3 | 2021-08-01 | 8 | 5544.33 |
| 4 | 2021-06-24 | 5 | 218.00 |
| 5 | 2021-06-22 | 5 | 129.71 |
| 6 | 2021-06-16 | 4 | 369.53 |
| 7 | 2021-06-30 | 3 | 1417.50 |
| 8 | 2021-07-16 | 3 | 135.19 |
| 9 | 2021-08-04 | 3 | 98.02 |
| 10 | 2021-08-17 | 3 | 253.58 |

**Insight 9**

Display the top 10 dates where the number of expenses are high and it's the respective amounts- To analyse if it's any seasonal occurrence and to know what has caused it.

**Query 10:**

```
SELECT M.MINISTRY_NAME,
    E.EXPENSE_CATEGORY,
    E.AMOUNT
FROM EXPENDITURES.EXPENDITURES E
INNER JOIN EXPENDITURES.CIVIL_SERVANTS C ON E.OFFICIAL_ID = C.OFFICIAL_ID
INNER JOIN EXPENDITURES.ROLES R ON C.ROLE_ID = R.ROLE_ID
INNER JOIN EXPENDITURES.MINISTRIES M ON R.MINISTRY_CODE = M.MINISTRY_CODE
WHERE E.AMOUNT =
        (SELECT MIN(AMOUNT)
            FROM EXPENDITURES.EXPENDITURES)
```

Data Output | Messages | Notifications

| | ministry_name character varying | expense_category character varying | amount numeric |
|---|---|---|---|
| 1 | Environment and Local Government | Parking in NB | 4.00 |

**Insight 10**

Finding the lowest spent reported and under what category and ministry, it was reported- To know the areas to concentrate more or to know where lagging occurs.

## 10. Views

| | |
|---|---|
| **View 1** | **Month-wise expenses across ministries** for the months July, August and September |
| **Summary** | Having a view on monthly spending across various ministries for August, July, and September in 2021 facilitates data analysis, enhances data integrity, and produces improved performance while supporting reporting and decision-making processes. It delivers an orderly, consistent dataset for time-series analysis and trend detection, and it makes data access simpler. |

```
WITH A AS
    (SELECT M.MINISTRY_NAME,
            E.PERIOD,
            E.AMOUNT
        FROM EXPENDITURES.EXPENDITURES E
        INNER JOIN EXPENDITURES.CIVIL_SERVANTS C ON E.OFFICIAL_ID = C.OFFICIAL_ID
        INNER JOIN EXPENDITURES.ROLES R ON C.ROLE_ID = R.ROLE_ID
        INNER JOIN EXPENDITURES.MINISTRIES M ON R.MINISTRY_CODE = M.MINISTRY_CODE)
SELECT DISTINCT M.MINISTRY_NAME,

    (SELECT SUM(A.AMOUNT)
        FROM A
        WHERE A.PERIOD = 'Jul-21'
            AND A.MINISTRY_NAME = M.MINISTRY_NAME ) AS JULY_21,

    (SELECT SUM(A.AMOUNT)
        FROM A
        WHERE A.PERIOD = 'Aug-21'
            AND A.MINISTRY_NAME = M.MINISTRY_NAME ) AS AUGUST_21,

    (SELECT SUM(A.AMOUNT)
        FROM A
        WHERE A.PERIOD = 'Sep-21'
            AND A.MINISTRY_NAME = M.MINISTRY_NAME ) AS SEPTEMBER_21
FROM EXPENDITURES.EXPENDITURES E,
    EXPENDITURES.CIVIL_SERVANTS C,
    EXPENDITURES.ROLES R,
    EXPENDITURES.MINISTRIES M
WHERE E.OFFICIAL_ID = C.OFFICIAL_ID
    AND C.ROLE_ID = R.ROLE_ID
    AND R.MINISTRY_CODE = M.MINISTRY_CODE
```

Data Output | Messages | Notifications

| | ministry_name character varying | july_21 numeric | august_21 numeric | september_21 numeric |
|---|---|---|---|---|
| 1 | Education and Early Childhood Development | 1091.81 | [null] | 1130.45 |
| 2 | Environment and Local Government | 1872.60 | 1678.13 | 1408.79 |
| 3 | Justice and Public Safety | 922.85 | 785.18 | [null] |
| 4 | Natural Resources and Energy Development | 1720.00 | 1836.61 | 1036.75 |
| 5 | Post-Secondary Education, Training and Labour | 1738.06 | 1309.06 | 690.00 |
| 6 | Social Development | 1895.16 | 2123.75 | 2203.54 |
| 7 | Tourism, Heritage and Culture | 1620.72 | 322.07 | 1366.86 |
| 8 | Transportation and Infrastructure | 1938.54 | 213.75 | 2073.42 |

| View 2 | Number of officials employed in different roles in each ministry |
|---|---|
| **Summary** | Finally, creating a view that displays the amount of personnel in various roles inside each government ministry speeds up data analysis, improves transparency, and provides essential data for allocating resources, assessing performance, and making decisions. It makes data more accessible and has the potential to be a powerful instrument for creating policies and ensuring accountability. |

```
SELECT M.MINISTRY_NAME,
    SUM(CASE WHEN R.ROLE_NAME = 'Minister' THEN 1
                                    ELSE 0 END) AS NO_OF_MINISTERS,
    SUM(CASE WHEN R.ROLE_NAME = 'Regional Assistant' THEN 1
                                    ELSE 0 END) AS NO_OF_REGIONAL_ASSISTANT,
    SUM(CASE WHEN R.ROLE_NAME = 'Deputy Minister' THEN 1
                                    ELSE 0 END) AS NO_OF_DEPUTY_MINISTER
FROM EXPENDITURES.CIVIL_SERVANTS C
INNER JOIN EXPENDITURES.ROLES R ON C.ROLE_ID = R.ROLE_ID
INNER JOIN EXPENDITURES.MINISTRIES M ON R.MINISTRY_CODE = M.MINISTRY_CODE
GROUP BY M.MINISTRY_NAME
ORDER BY M.MINISTRY_NAME
```

Data Output | Messages | Notifications

| | ministry_name character varying | no_of_ministers bigint | no_of_regional_assistant bigint | no_of_deputy_minister bigint |
|---|---|---|---|---|
| 1 | Education and Early Childhood Development | 1 | 1 | 2 |
| 2 | Environment and Local Government | 2 | 2 | 1 |
| 3 | Justice and Public Safety | 1 | 1 | 0 |
| 4 | Natural Resources and Energy Development | 1 | 1 | 1 |
| 5 | Post-Secondary Education, Training and Labour | 1 | 0 | 1 |
| 6 | Social Development | 1 | 1 | 1 |
| 7 | Tourism, Heritage and Culture | 1 | 1 | 1 |
| 8 | Transportation and Infrastructure | 1 | 1 | 1 |

## Conclusion:

In conclusion, using PostgreSQL to examine a dataset of New Brunswick government spending across a number of ministries offers a priceless opportunity to gain a thorough grasp of spending patterns. We can quickly run queries, manage complex data structures, and get meaningful results that helps us to find patterns, assess performance, and ultimately promote data-driven, informed decision-making to evaluate the effectiveness of government expenditure and refining fiscal policies by employing this robust database management system.