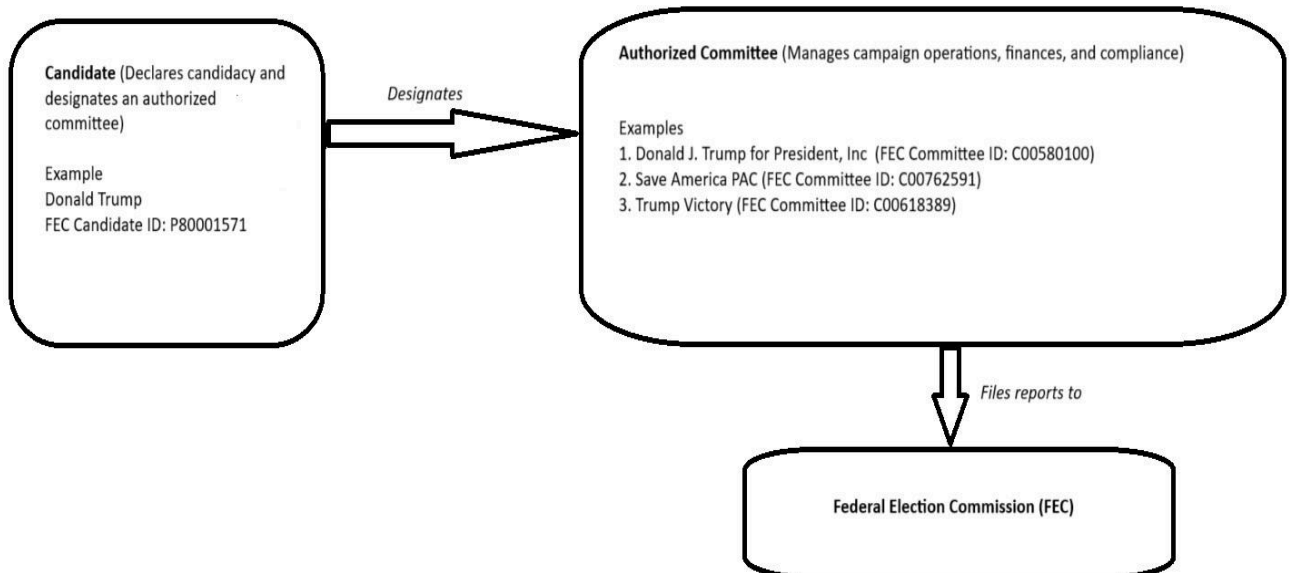


## ER Diagram

Candidate–Committee–FEC Relationship Diagram



## 1. All candidates

**Source:** [FEC All Candidates File Description](#)

**Purpose:** Summarizes **financial data per candidate** who raised/spent funds in an election cycle.

### Data Characteristics

- **Granularity:** 1 row per candidate per cycle
- **Period Covered:** Current election cycle (e.g., 2019–2020)

| Column Name          | Description                          |
|----------------------|--------------------------------------|
| CAND_ID              | Candidate identification             |
| CAND_NAME            | Candidate name                       |
| CAND_ICI             | Incumbent challenger status          |
| PTY_CD               | Party code                           |
| CAND_PTY_AFFILIATION | Party affiliation                    |
| TTL_RECEIPTS         | Total receipts                       |
| TRANS_FROM_AUTH      | Transfers from authorized committees |
| TTL_DISB             | Total disbursements                  |
| TRANS_TO_AUTH        | Transfers to authorized committees   |
| COH_BOP              | Beginning cash                       |
| COH_COP              | Ending cash                          |
| CAND_CONTRIB         | Contributions from candidate         |
| CAND_LOANS           | Loans from candidate                 |
| OTHER_LOANS          | Other loans                          |
| CAND_LOAN_REPAY      | Candidate loan repayments            |
| OTHER_LOAN_REPAY     | Other loan repayments                |
| DEBTS_OWED_BY        | Debts owed by                        |
| TTL_INDIV_CONTRIB    | Total individual contributions       |
| CAND_OFFICE_ST       | Candidate state                      |
| CAND_OFFICE_DISTRICT | Candidate district                   |
| SPEC_ELECTION        | Special election status              |
| PRIM_ELECTION        | Primary election status              |
| RUN_ELECTION         | Runoff election status               |

|                        |   |
|------------------------|---|
| GEN_ELECTION           | General election status                       |
| GEN_ELECTION_PERCENT   | General election percentage                   |
| OTHER_POL_CMTE_CONTRIB | Contributions from other political committees |
| POL_PTY_CONTRIB        | Contributions from party committees           |
| CVG_END_DT             | Coverage end date                             |
| INDIV_REFUNDS          | Refunds to individuals                        |
| CMTE_REFUNDS           | Refunds to committees                         |

## Key Columns

### 1. TTL\_RECEIPTS (Total Receipt)

**Description:** This field represents the **total amount of funds received** by a candidate's authorized committees during the reporting period.

**Significance:** Provides insight into the overall fundraising efforts and financial support for a candidate's campaign.

### 2. TTL\_DISB (Total Disbursements)

**Description:** This field denotes the **total amount of funds spent** by a candidate's authorized committees during the reporting period.

**Significance:** Helps assess the spending patterns and financial management of a candidate's campaign

\*\*\*\*\*

**Note:-** When a candidate has multiple authorized committees, funds transferred between these committees can lead to double-counting in the total financial activity. For instance, if Committee A transfers funds to Committee B, and both report this transaction, the same funds are counted twice in the aggregated totals.

To obtain a more accurate representation of a candidate's financial activity, we should adjust the total receipts and disbursements by subtracting inter-committee transfers.

Therefore,

Adjusted total receipts

**ADJ\_TTL\_RECEIPTS = TTL\_RECEIPTS - TRANS\_FROM\_AUTH**

## Adjusted total disbursements

**ADJ\_TTL\_DISB = TTL\_DISB - TRANS\_TO\_AUTH**

\*\*\*\*\*

### **3. COH\_BOP (Beginning Cash)**

**Description:** Represents the amount of cash-on-hand at the beginning of the reporting period for a candidate's campaign.

**Significance:** Provides insight into the financial position of a campaign at the start of a reporting cycle.

### **4. COH\_COP (Ending Cash)**

**Description:** Indicates the amount of cash-on-hand at the end of the reporting period.

**Significance:** Helps assess the remaining funds available to a campaign after expenditures during the reporting period.

### **5. CAND\_CONTRIB (Contributions from Candidate)**

**Description:** Total monetary contributions made by the candidate to their own campaign.

**Significance:** Reflects the personal financial investment a candidate is making in their campaign.

### **6. CAND\_LOANS (Loans from Candidate)**

**Description:** Total amount of loans provided by the candidate to their campaign.

**Significance:** Shows the extent to which a candidate is financing their campaign through personal loans.

### **7. DEBTS\_OWED\_BY (Debts Owed By)**

**Description:** Total amount of debts the candidate's campaign owes to creditors at the end of the reporting period.

**Significance:** Indicates the campaign's outstanding financial obligations, which is crucial for assessing its financial health. [Kaggle+1FEC.gov+1](#)

### **8. TTL\_INDIV\_CONTRIB (Total Individual Contributions)**

**Description:** Total monetary contributions received from individual donors.

**Significance:** Reflects the level of grassroots support and the campaign's ability to attract funds from individual supporters.

## **9. CVG\_END\_DT (Coverage end date)**

**Description:** It represents the **end date of the reporting period** for a candidate's campaign finance data.

Example:- If a candidate submits a financial report for Q1 of 2020, the CVG\_END\_DT might be: "03/31/2020" — meaning this report includes all financial activity up to March 31, 2020.

**Significance:** Quarter-over-quarter growth, Campaign burn rate, Rolling averages, Lag features for forecasting.

## **2. Any transaction from one committee to another**

This dataset contains **financial transactions** where one **political committee** sends money to another **political committee** . Both these committees may belong to the same candidate (to share expenses) or different candidates (to support other candidates).

| Column Name     | Field Name                       |
|-----------------|----------------------------------|
| CMTE_ID         | Filer identification number      |
| AMNDT_IND       | Amendment indicator              |
| RPT_TP          | Report type                      |
| TRANSACTION_PGI | Primary-general indicator        |
| IMAGE_NUM       | Image number                     |
| TRANSACTION_TP  | Transaction type                 |
| ENTITY_TP       | Entity type                      |
| NAME            | Contributor/lender/transfer Name |
| CITY            | City                             |
| STATE           | State                            |
| ZIP_CODE        | ZIP code                         |
| EMPLOYER        | Employer                         |
| OCCUPATION      | Occupation                       |
| TRANSACTION_DT  | Transaction date (MMDDYYYY)      |
| TRANSACTION_AMT | Transaction amount               |
| OTHER_ID        | Other identification number      |
| TRAN_ID         | Transaction ID                   |
| FILE_NUM        | File number / Report ID          |
| MEMO_CD         | Memo code                        |
| MEMO_TEXT       | Memo text                        |
| SUB_ID          | FEC record number                |

### **Key Columns**

#### **1. CMTE\_ID (Filer identification number)**

**Description:** Total amount of loans provided by the candidate to their campaign.

**Significance:** Shows the extent to which a candidate is financing their campaign through personal loans.

## 2. OTHER\_ID (Other identification number)

**Description:** Total amount of loans provided by the candidate to their campaign.

**Significance:** Shows the extent to which a candidate is financing their campaign through personal loans.

## 3. TRAN\_ID (Transaction ID)

**Description:** Unique transaction ID.

**Significance:** Used for deduplication and tracking Transaction ID.

## 3. Candidate-committee linkage

This links the candidate's information to his or her committee.

| Column Name      | Field Name               |
|------------------|--------------------------|
| CAND_ID          | Candidate identification |
| CAND_ELECTION_YR | Candidate election year  |
| FEC_ELECTION_YR  | FEC election year        |
| CMTE_ID          | Committee identification |
| CMTE_TP          | Committee type           |
| CMTE_DSGN        | Committee designation    |
| LINKAGE_ID       | Linkage ID               |

### Key fields

#### CAND\_ID

**Description:** FEC ID for the candidate

**Significance:** Unique candidate reference; use to join with candidate master file

#### CMTE\_ID

**Description:** Committee ID (FEC-assigned)

**Significance:** Unique ID of the authorized committee; join with committee master

#### 4. Contributions by individuals

This dataset lists contributions from individuals (persons) to federal political committees, such as candidate campaigns, PACs, and party organizations. contributions that meet the **itemization threshold** (typically > \$200/year per contributor per committee) are only included

| Column Name     | Field Name                       |
|-----------------|----------------------------------|
| CMTE_ID         | Filer identification number      |
| AMNDT_IND       | Amendment indicator              |
| RPT_TP          | Report type                      |
| TRANSACTION_PGI | Primary-general indicator        |
| IMAGE_NUM       | Image number                     |
| TRANSACTION_TP  | Transaction type                 |
| ENTITY_TP       | Entity type                      |
| NAME            | Contributor/Lender/Transfer Name |
| CITY            | City                             |
| STATE           | State                            |
| ZIP_CODE        | ZIP code                         |
| EMPLOYER        | Employer                         |
| OCCUPATION      | Occupation                       |
| TRANSACTION_DT  | Transaction date (MMDDYYYY)      |
| TRANSACTION_AMT | Transaction amount               |
| OTHER_ID        | Other identification number      |
| TRAN_ID         | Transaction ID                   |
| FILE_NUM        | File number / Report ID          |
| MEMO_CD         | Memo code                        |
| MEMO_TEXT       | Memo text                        |
| SUB_ID          | FEC record number                |

#### **Key Fields**

##### **ENTITY\_TP**

**Description:** Donor type (typically IND for individuals)

**Significance:** Mostly “IND” in this dataset, confirming individual source



## CITY, STATE, ZIP

**Description:** Donor's location info

**Significance:** Used for geographical analysis of contributions

## EMPLOYER, OCCUPATION

**Description:** Employer and occupation of the individual donor

**Significance:** Useful for analyzing industry or job-level giving trends

## TRANSACTION\_AMT

**Description:** Amount of money contributed

**Significance:** Main quantitative field

| Source Type                     | Entity Type Code    | Included in ContributionsByIndividuals? | Valid Individual?   |
|---------------------------------|---------------------|---|---------------------|
| Real human donor                | IND                 | ✓ Yes                                   | ✓ Yes               |
| Corporation (business)          | ORG, COR, or others | ✓ Yes                                   | ✗ Not an individual |
| Political committee (PAC, etc.) | COM, PAC, etc.      | ✓ Yes                                   | ✗ Not an individual |

## **5. Contributions from committees to candidates & independent expenditure**

This dataset includes itemized contributions from individuals, PACs, and other entities to federal committees and candidates. Each row represents a single contribution.

It helps to understand:

- Who is funding which candidates/committees
- When and how much they contributed
- Patterns of political support and influence

### **Key Fields**

#### **CMTE\_ID**

**Description:** FEC-assigned ID of the recipient committee

**Significance:** Identifies who received the contribution

#### **CITY, STATE, ZIP\_CODE**

**Description:** Contributor's location

**Significance:** Enables geographic analysis

#### **EMPLOYER, OCCUPATION**

**Description:** Self-reported job data from contributor

**Significance:** Useful for identifying professional influence groups

#### **TRANSACTION\_AMT**

**Description:** Dollar amount of the contribution

**Significance:** Core metric: how much was donated

#### **OTHER\_ID**

**Description:** If filled, this is not an individual (used for PAC-to-committee transactions)

**Significance:** Helps exclude non-individual contributions

| Column Name     | Field Name                       |
|-----------------|----------------------------------|
| CMTE_ID         | Filer identification number      |
| AMNDT_IND       | Amendment indicator              |
| RPT_TP          | Report type                      |
| TRANSACTION_PGI | Primary-general indicator        |
| IMAGE_NUM       | Image number                     |
| TRANSACTION_TP  | Transaction type                 |
| ENTITY_TP       | Entity type                      |
| NAME            | Contributor/lender/transfer Name |
| CITY            | City                             |
| STATE           | State                            |
| ZIP_CODE        | ZIP code                         |
| EMPLOYER        | Employer                         |
| OCCUPATION      | Occupation                       |
| TRANSACTION_DT  | Transaction date (MMDDYYYY)      |
| TRANSACTION_AMT | Transaction amount               |
| OTHER_ID        | Other identification number      |
| CAND_ID         | Candidate ID                     |
| TRAN_ID         | Transaction ID                   |
| FILE_NUM        | File number / Report ID          |
| MEMO_CD         | Memo code                        |
| MEMO_TEXT       | Memo text                        |
| SUB_ID          | FEC record number                |

## 6. House/Senate Current campaigns

This dataset provides financial and candidacy information for **active House and Senate campaigns** in the current election cycle. Each row represents a **candidate** running for office, with summarized financial activity data.

### Use Cases

Who is currently running for office (House/Senate)?

How much each campaign has raised/spent?

Party, state, district, and incumbent status

Useful for financial performance analysis of candidates?

| Column Name            | Field Name                                    |
|------------------------|---|
| CAND_ID                | Candidate identification                      |
| CAND_NAME              | Candidate name                                |
| CAND_ICI               | Incumbent challenger status                   |
| PTY_CD                 | Party code                                    |
| CAND_PTY_AFFILIATION   | Party affiliation                             |
| TTL_RECEIPTS           | Total receipts                                |
| TRANS_FROM_AUTH        | Transfers from authorized committees          |
| TTL_DISB               | Total disbursements                           |
| TRANS_TO_AUTH          | Transfers to authorized committees            |
| COH_BOP                | Beginning cash                                |
| COH_COP                | Ending cash                                   |
| CAND_CONTRIB           | Contributions from candidate                  |
| CAND_LOANS             | Loans from candidate                          |
| OTHER_LOANS            | Other loans                                   |
| CAND_LOAN_REPAY        | Candidate loan repayments                     |
| OTHER_LOAN_REPAY       | Other loan repayments                         |
| DEBTS_OWED_BY          | Debts owed by                                 |
| TTL_INDIV_CONTRIB      | Total individual contributions                |
| CAND_OFFICE_ST         | Candidate state                               |
| CAND_OFFICE_DISTRICT   | Candidate district                            |
| SPEC_ELECTION          | Special election status                       |
| PRIM_ELECTION          | Primary election status                       |
| RUN_ELECTION           | Runoff election status                        |
| GEN_ELECTION           | General election status                       |
| GEN_ELECTION_PRECENT   | General election percentage                   |
| OTHER_POL_CMTE_CONTRIB | Contributions from other political committees |
| POL_PTY_CONTRIB        | Contributions from party committees           |
| CVG_END_DT             | Coverage end date                             |
| INDIV_REFUNDS          | Refunds to individuals                        |
| CMTE_REFUNDS           | Refunds to committees                         |

## **Key Fields**

### **CAND\_ID, CAND\_NAME**

**Description:** Unique FEC candidate ID and candidate Name

**Significance:** Primary key to join with other datasets (e.g., contributions, committees)

### **PTY\_CD, CAND\_NAME**

**Description:** Party code (DEM, REP, etc.)

**Significance:** Allows grouping by party

### **TTL\_RECEIPTS**

**Description:** Total money received by the campaign

**Significance:** Used to measure financial support

### **TTL\_INDIV\_CONTRIB**

**Description:** Total from individual donors

**Significance:** Shows grassroots support

## **Insights to derive**

Which candidates are best funded by individuals vs. self-financed

District-level comparisons of fundraising and spending

Identify candidates who may be at risk financially (e.g., high debt, low COH)

Party-wise trends in fundraising

## **7. Operating expenditures**

This file documents disbursements (spending) by a political committee to support campaign operations — it covers both candidate and non-candidate (PACs, party) committees.

| Column Name      | Field Name                             |
|------------------|--|
| CMTE_ID          | Filer identification number            |
| AMNDT_IND        | Amendment indicator                    |
| RPT_YR           | Report year                            |
| RPT_TP           | Report type                            |
| IMAGE_NUM        | Image number                           |
| LINE_NUM         | Line number                            |
| FORM_TP_CD       | Form type                              |
| SCHED_TP_CD      | Schedule type                          |
| NAME             | Contributor/Lender/Transfer Name       |
| CITY             | City                                   |
| STATE            | State                                  |
| ZIP_CODE         | ZIP code                               |
| TRANSACTION_DT   | Transaction date (MMDDYYYY)            |
| TRANSACTION_AMT  | Transaction amount                     |
| TRANSACTION_PGI  | Primary general indicator              |
| PURPOSE          | Purpose                                |
| CATEGORY         | Disbursement category code             |
| CATEGORY_DESC    | Disbursement Category Code Description |
| MEMO_CD          | Memo code                              |
| MEMO_TEXT        | Memo text                              |
| ENTITY_TP        | Entity type                            |
| SUB_ID           | FEC record number                      |
| FILE_NUM         | File number/report ID                  |
| TRAN_ID          | Transaction ID                         |
| BACK_REF_TRAN_ID | Back reference transaction ID          |

### **Key Fields**

#### **CMTE\_ID**

**Description:** FEC-assigned committee ID

**Significance:** Identifies the committee making the expenditure

## **CITY, STATE, ZIP**

**Description:** Recipient's location

**Significance:** Useful for geographical analysis of spending

## **ENTITY\_TP**

**Description:** Type of recipient (e.g., IND, COM, PAC)

**Significance:** Helps differentiate between businesses, individuals, committees

## **PURPOSE**

**Description:** Description of the payment (e.g., "Consulting", "Salary", "Travel")

**Significance:** Core insight into how the money was used

## **AMOUNT**

**Description:** Amount of money spent

**Significance:** Core metric — how much was spent

## **8. PAC summary**

The PAC and party summary file contains summary financial information for each PAC and party committee.

The file has one record per PAC and Party committee and shows information about the committee, total receipts and disbursements, receipts and disbursements broken down by type, contributions to other committees, independent expenditures.

This file provides **aggregated financial data** for each PAC or party committee, such as:

- Total contributions received
- Total disbursements made
- Cash on hand
- Debts
- Transfers to/from affiliates

- Refunds

| Column Name            | Field Name                                    |
|------------------------|---|
| CMTE_ID                | Committee identification                      |
| CMTE_NM                | Committee name                                |
| CMTE_TP                | Committee type                                |
| CMTE_DSGN              | Committee designation                         |
| CMTE_FILING_FREQ       | Committee filing frequency                    |
| TTL_RECEIPTS           | Total receipts                                |
| TRANS_FROM_AFF         | Transfers from affiliates                     |
| INDV_CONTRIB           | Contributions from individuals                |
| OTHER_POL_CMTE_CONTRIB | Contributions from other political committees |
| CAND_CONTRIB           | Contributions from candidate                  |
| CAND_LOANS             | Candidate loans                               |
| TTL_LOANS_RECEIVED     | Total loans received                          |
| TTL_DISB               | Total disbursements                           |
| TRANF_TO_AFF           | Transfers to affiliates                       |
| INDV_REFUNDS           | Refunds to individuals                        |
| OTHER_POL_CMTE_REFUNDS | Refunds to other political committees         |
| CAND_LOAN_REPAY        | Candidate loan repayments                     |
| LOAN_REPAY             | Loan repayments                               |
| COH_BOP                | Cash beginning of period                      |
| COH_COP                | Cash close Of period                          |
| DEBTS_OWED_BY          | Debts owed by                                 |
| NONFED_TRANS_RECEIVED  | Nonfederal transfers received                 |
| CONTRIB_TO_OTHER_CMTE  | Contributions to other committees             |
| IND_EXP                | Independent expenditures                      |
| PTY_COORD_EXP          | Party coordinated expenditures                |
| NONFED_SHARE_EXP       | Nonfederal share expenditures                 |
| CVG_END_DT             | Coverage end date                             |

## Key Columns

### CMTE\_ID, CMTE\_NM

**Description:** Unique FEC ID assigned to the committee , Committee name

**Significance:** Identifies each PAC or party committee

### CMTE\_CITY, CMTE\_ST, CMTE\_ZIP

**Description:** Committee city, state, and ZIP

**Significance:** Geographical grouping



## **CMTE\_PTY\_AFFILIATION**

**Description:** Political party affiliation

**Significance:** Used for partisan analysis

## **CAND\_ID**

**Description:** If it's a candidate's committee, this is their FEC candidate ID

**Significance:** Links to candidate-level data

## 9. Candidate master

This file contains **master data** about every candidate who has registered with the FEC. It includes both current and historical candidates running for **House**, **Senate**, or **President**

| Column Name          | Field Name                   |
|----------------------|------------------------------|
| CAND_ID              | Candidate identification     |
| CAND_NAME            | Candidate name               |
| CAND_PTY_AFFILIATION | Party affiliation            |
| CAND_ELECTION_YR     | Year of election             |
| CAND_OFFICE_ST       | Candidate state              |
| CAND_OFFICE          | Candidate office             |
| CAND_OFFICE_DISTRICT | Candidate district           |
| CAND_ICI             | Incumbent challenger status  |
| CAND_STATUS          | Candidate status             |
| CAND_PCC             | Principal campaign committee |
| CAND_ST1             | Mailing address - street     |
| CAND_ST2             | Mailing address - street2    |
| CAND_CITY            | Mailing address - city       |
| CAND_ST              | Mailing address - state      |
| CAND_ZIP             | Mailing address - ZIP code   |

### Key Columns

#### CAND\_ID, CAND\_NAME

**Description:** Unique FEC ID assigned to each candidate , Candidate name

**Significance:** Primary key; used for linking across datasets (e.g., contributions, loans)

#### CAND\_PTY\_AFFILIATION

**Description:** Candidate's declared party (e.g., DEM, REP, LIB)

**Significance:** Useful for filtering or grouping by political party

## **CAND\_STATUS**

**Description:** Status: C = Candidate, N = Not running, F = Future

**Significance:** Shows whether candidate is currently running

## **CAND\_CITY, CAND\_ST, CAND\_ZIP**

**Description:** Candidate's mailing city/state/zip

**Significance:** Useful for mapping candidate locations

## **Why This Dataset Matters**

- **Linkage hub:** This file connects to financial datasets (e.g., individual contributions, committee transactions).
- **Candidate profiling:** Helps construct a profile of each candidate's background and affiliations.
- **Data integrity:** Provides consistent identifiers across FEC datasets.

## **10. Committee master**

The committee master file contains basic information for each committee registered with the Federal Election Commission.

Used to **identify and categorize** committees that appear in other FEC datasets (like contributions, disbursements, etc.)

| Column Name          | Field Name                    |
|----------------------|-------------------------------|
| CMTE_ID              | Committee identification      |
| CMTE_NM              | Committee name                |
| TRES_NM              | Treasurer's name              |
| CMTE_ST1             | Street one                    |
| CMTE_ST2             | Street two                    |
| CMTE_CITY            | City or town                  |
| CMTE_ST              | State                         |
| CMTE_ZIP             | ZIP code                      |
| CMTE_DSGN            | Committee designation         |
| CMTE_TP              | Committee type                |
| CMTE_PTY_AFFILIATION | Committee party               |
| CMTE_FILING_FREQ     | Filing frequency              |
| ORG_TP               | Interest group category       |
| CONNECTED_ORG_NM     | Connected organization's name |
| CAND_ID              | Candidate identification      |

### **Key Columns**

#### **CMTE\_ID, CMTE\_NM**

**Description:** Unique FEC-assigned committee ID , Name of the committee

**Significance:** Primary identifier used across all FEC data files, Used for labeling, reporting, and human-readable context

#### **CMTE\_CITY, CMTE\_ST, CMTE\_ZIP**

**Description:** City, state, and zip code

**Significance:** Geographic location, regional

#### **CMTE\_TP**

**Description:** Committee type (e.g., H = House, S = Senate, P = Presidential)

**Significance:** Clarifies the election scope of the committee

## **CMTE\_PTY\_AFFILIATION**

**Description:** Party affiliation (DEM, REP, etc.)

**Significance:** Used for partisanship and funding patterns.

## **CAND\_ID**

**Description:** Candidate ID (if the committee is authorized for a specific candidate).

**Significance:** Links committee to a specific election campaign.

## **Why This File Matters**

- **Acts as a lookup table** for other datasets (joins on CMTE\_ID)
- **Used to classify committees** based on type, party, region, or reporting pattern
- **Vital for campaign finance auditing and visualizations**
- **Foundation for network and influence analysis**