Importing lib and data

In [1]:

```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [2]:

```
data = pd.read_csv('election_results_2024.csv')
data.head()
```

Out[2]:

	Constituency	Const. No.	Leading Candidate	Leading Party	Trailing Candidate	Trailing Party	Margin	Status
0	AJMER	13	BHAGIRATH CHOUDHARY	Bharatiya Janata Party	RAMCHANDRA CHOUDHARY	Indian National Congress	329991	Result Declared
1	ALWAR	8	BHUPENDER YADAV	Bharatiya Janata Party	LALIT YADAV	Indian National Congress	48282	Result Declared
2	AMBALA	1	VARUN CHAUDHRY	Indian National Congress	BANTO KATARIA	Bharatiya Janata Party	49036	Result Declared
3	ANANTNAG-RAJOURI	3	MIAN ALTAF AHMAD	Jammu & Kashmir National Conference	MEHBOOBA MUFTI	Jammu & Kashmir Peoples Democratic Party	281794	Result Declared
4	ARAKKONAM	7	S JAGATHRATCHAKAN	Dravida Munnetra Kazhagam	L VIJAYAN	All India Anna Dravida Munnetra Kazhagam	306559	Result Declared

Party with the highest and lowest margin of victory

In [3]:

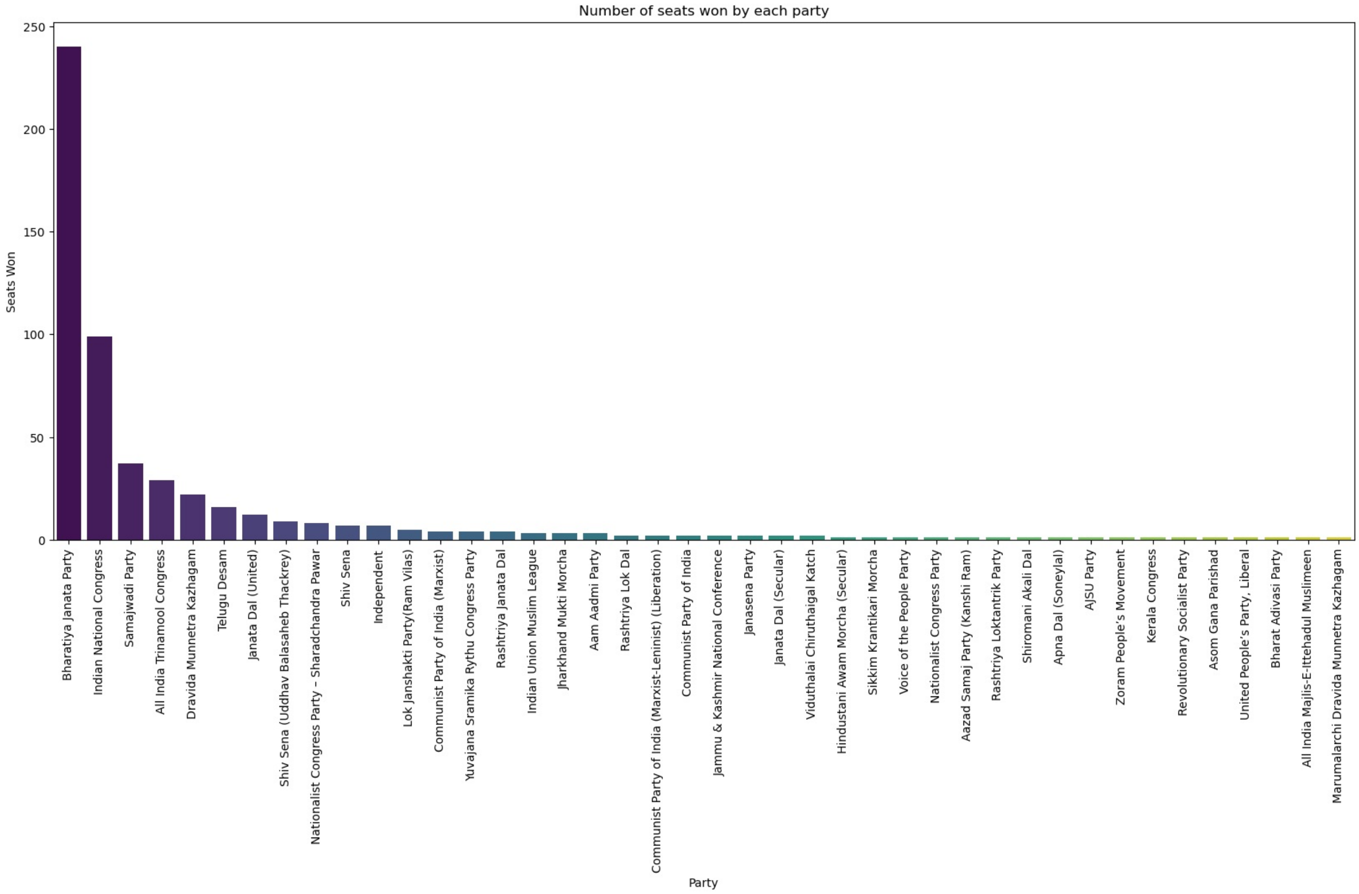
```
party_votes = data.groupby('Leading Party')['Margin'].sum().sort_values(ascending=False)
data['Margin'] = pd.to_numeric(data['Margin'], errors= 'coerce')

highest_margin = data.loc[data['Margin'].idxmax()]
lowest_margin = data.loc[data['Margin'].idxmin()]
```

Plot number of seats won by each party

In [4]:

```
Leading_party_highest_votes = party_votes.idxmax()
Leading_party_lowest_votes = party_votes.idxmin()

# Number of seats won by each party
seats_won = data['Leading Party'].value_counts()

# Plot number of seats won by each party
plt.figure(figsize=(20,8))
sns.barplot(x = seats_won.index, y = seats_won.values, palette = 'viridis')
plt.title('Number of seats won by each party')
plt.xlabel('Party')
plt.ylabel('Seats Won')
plt.xticks(rotation = 90)
plt.show()
```

```
C:\Users\Uttam\AppData\Local\Temp\ipykernel_6676\4211072887.py:9: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable
to `hue` and set `legend=False` for the same effect.

  sns.barplot(x = seats_won.index, y = seats_won.values, palette = 'viridis')
```

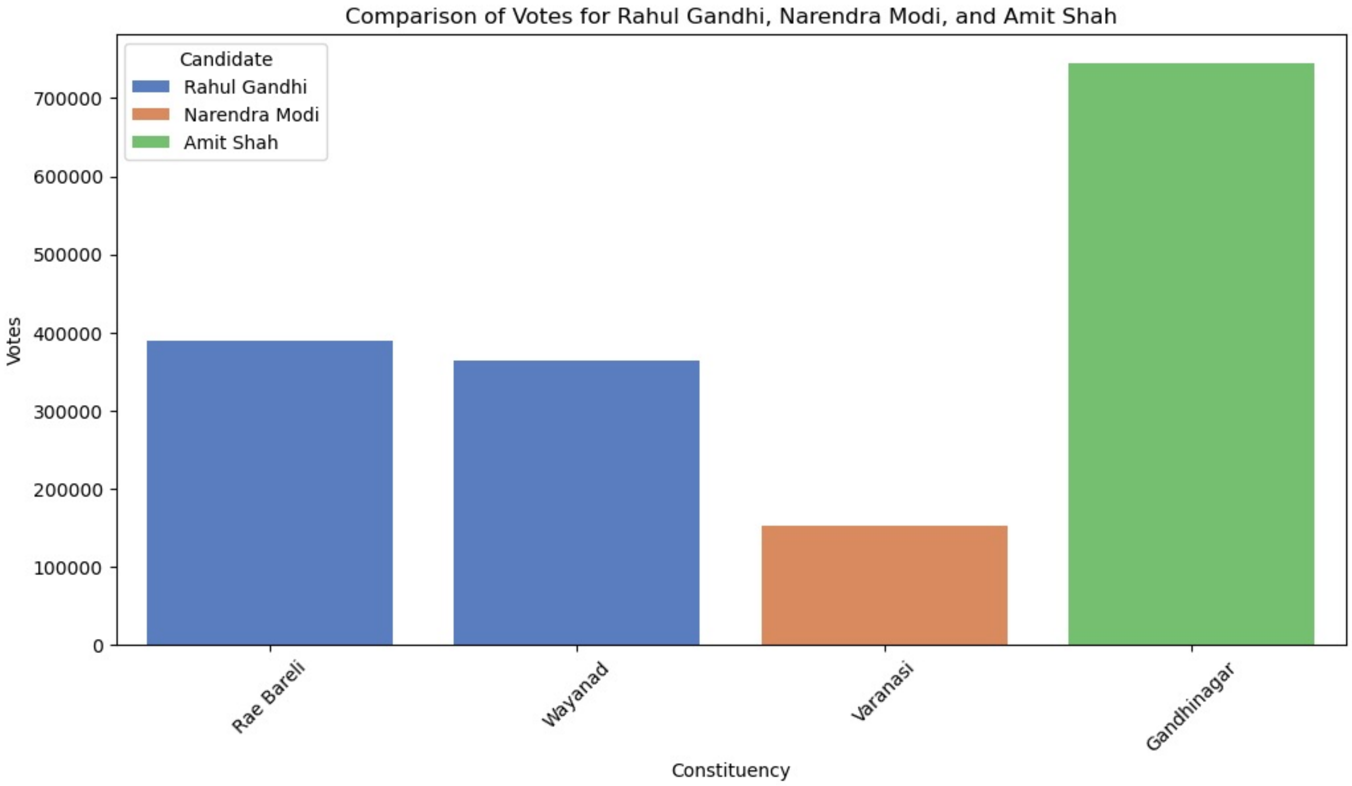


Get the votes for Rahul Gandhi, Narendra Modi and Amit shah

In [5]:

```
rahul_entries = data[data['Leading Candidate'] == 'RAHUL GANDHI']
modi_entries = data[data['Leading Candidate'] == 'NARENDRA MODI']
amit_entries = data[data['Leading Candidate'] == 'AMIT SHAH']

# Get the votes for Rahul Gandhi, Narendra Modi, and Amit Shah
rahul_votes = rahul_entries['Margin'].values
modi_votes = modi_entries['Margin'].values[0] if not modi_entries.empty else 0
amit_votes = amit_entries['Margin'].values[0] if not amit_entries.empty else 0

# Get the original constituency names for Rahul Gandhi
rahul_constituencies = list(rahul_entries['Constituency'])

# Get the original constituency name for Narendra Modi
modi_constituency = modi_entries['Constituency'].values[0] if not modi_entries.empty else "Modi Constituency"

# Get the original constituency name for Amit Shah
amit_constituency = amit_entries['Constituency'].values[0] if not amit_entries.empty else "Amit Shah Constituen

# Combine the data
data_to_plot = pd.DataFrame({
    'Candidate': ['Rahul Gandhi'] * len(rahul_votes) + ['Narendra Modi', 'Amit Shah'],
    'Constituency': rahul_constituencies + [modi_constituency, amit_constituency],
    'Votes': list(rahul_votes) + [modi_votes, amit_votes]
})

# Plot the comparison
```

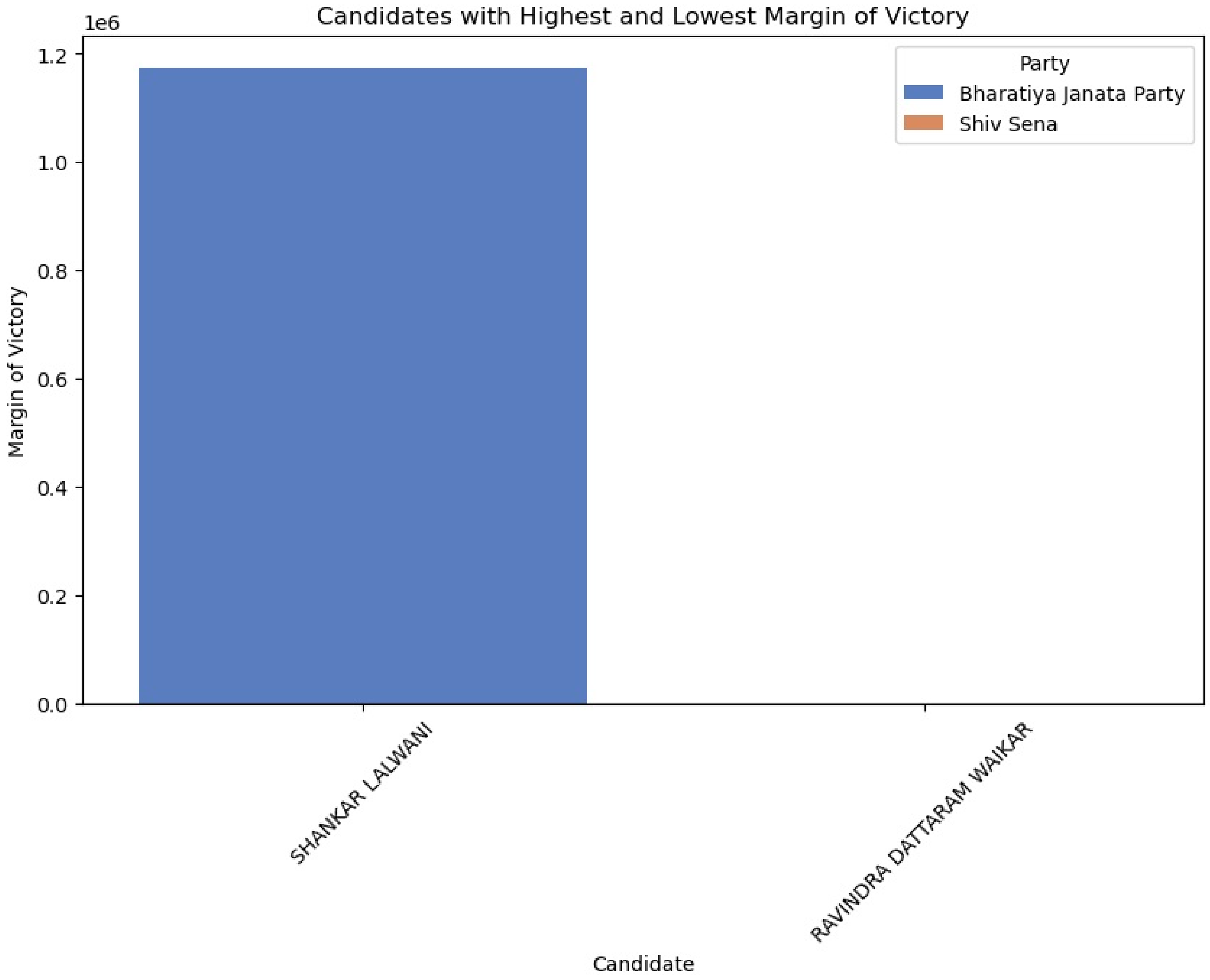
```
plt.figure(figsize=(12, 6))
sns.barplot(data=data_to_plot, x='Constituency', y='Votes', hue='Candidate', palette='muted')
plt.title('Comparison of Votes for Rahul Gandhi, Narendra Modi, and Amit Shah')
plt.xlabel('Constituency')
plt.ylabel('Votes')
plt.xticks(rotation=45)
plt.show()
```



Highest and lowest victory candidate

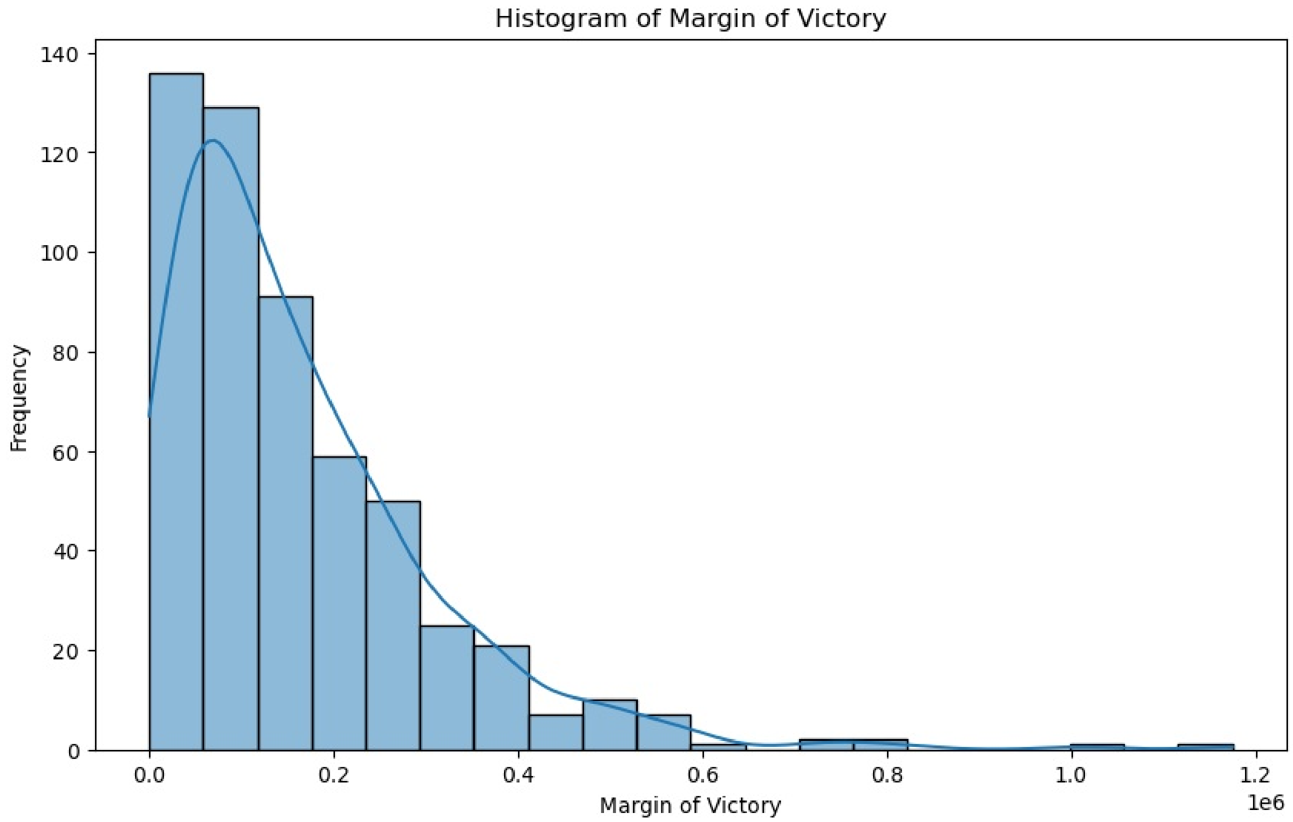
In [6]:

```
highest_margin_entry = data.loc[data['Margin'].idxmax()]
lowest_margin_entry = data.loc[data['Margin'].idxmin()]

# Combine the data
data_to_plot = pd.DataFrame({
    'Candidate': [highest_margin_entry['Leading Candidate'], lowest_margin_entry['Leading Candidate']],
    'Party': [highest_margin_entry['Leading Party'], lowest_margin_entry['Leading Party']],
    'Margin': [highest_margin_entry['Margin'], lowest_margin_entry['Margin']]
})

# Plot the comparison
plt.figure(figsize=(10, 6))
sns.barplot(data=data_to_plot, x='Candidate', y='Margin', hue='Party', palette='muted')
plt.title('Candidates with Highest and Lowest Margin of Victory')
plt.xlabel('Candidate')
plt.ylabel('Margin of Victory')
plt.xticks(rotation=45)
plt.show()
```



In [7]:

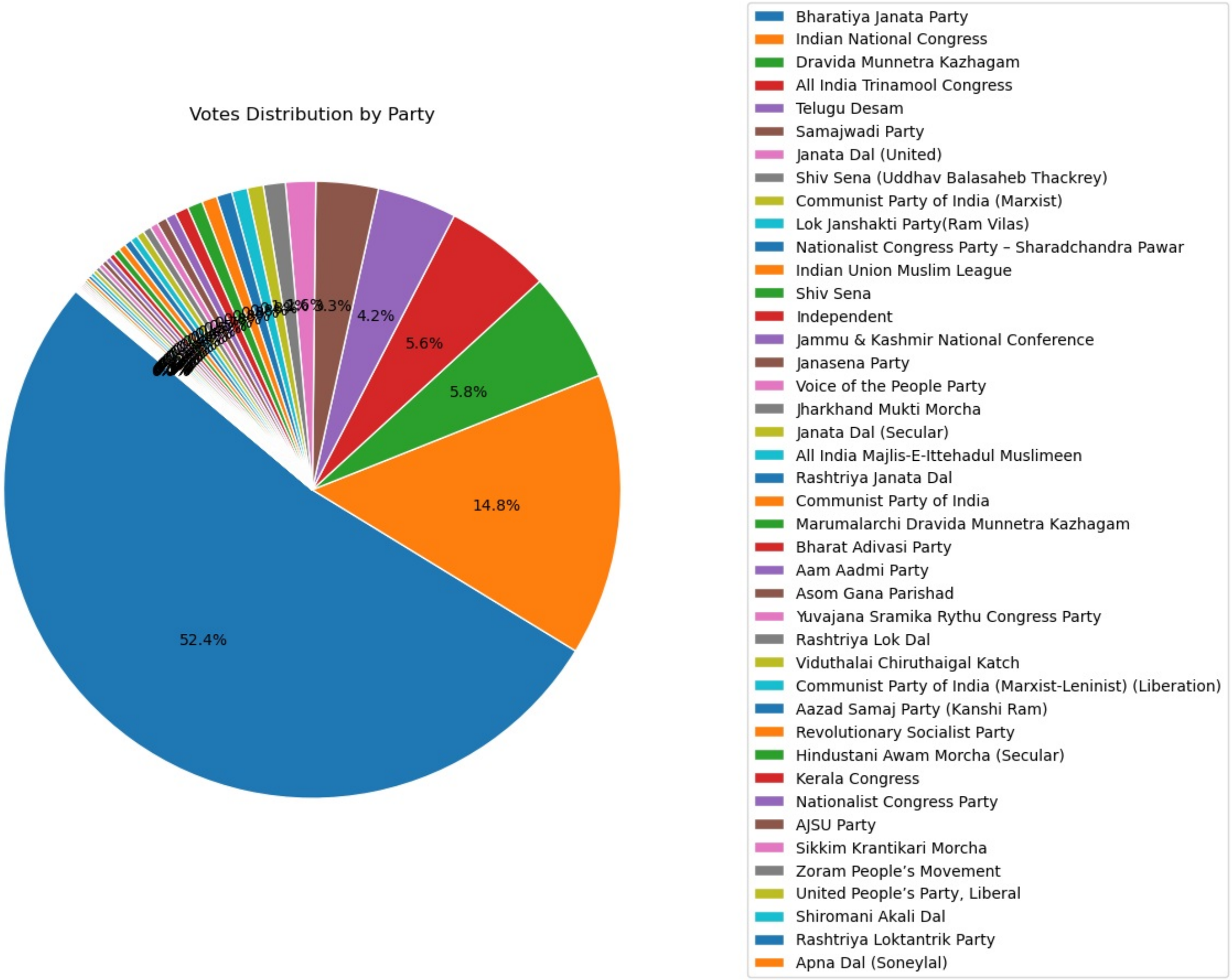
```
plt.figure(figsize=(10, 6))
sns.histplot(data['Margin'], bins=20, kde=True)
plt.title('Histogram of Margin of Victory')
plt.xlabel('Margin of Victory')
plt.ylabel('Frequency')
plt.show()
```



Votes distribution by party

In [8]:

```
party_votes = data.groupby('Leading Party')['Margin'].sum().sort_values(ascending=False)

# Plot pie chart
plt.figure(figsize=(10, 8))
wedges, texts, autotexts = plt.pie(party_votes, labels=None, autopct='%1.1f%%', startangle=140, wedgeprops=dict
plt.title('Votes Distribution by Party', pad=20)
plt.axis('equal')

plt.legend(labels=party_votes.index, loc='center left', bbox_to_anchor=(1, 0.5), fontsize='medium')


plt.show()
```



Top 10 trailing party by VOTE

In [9]:

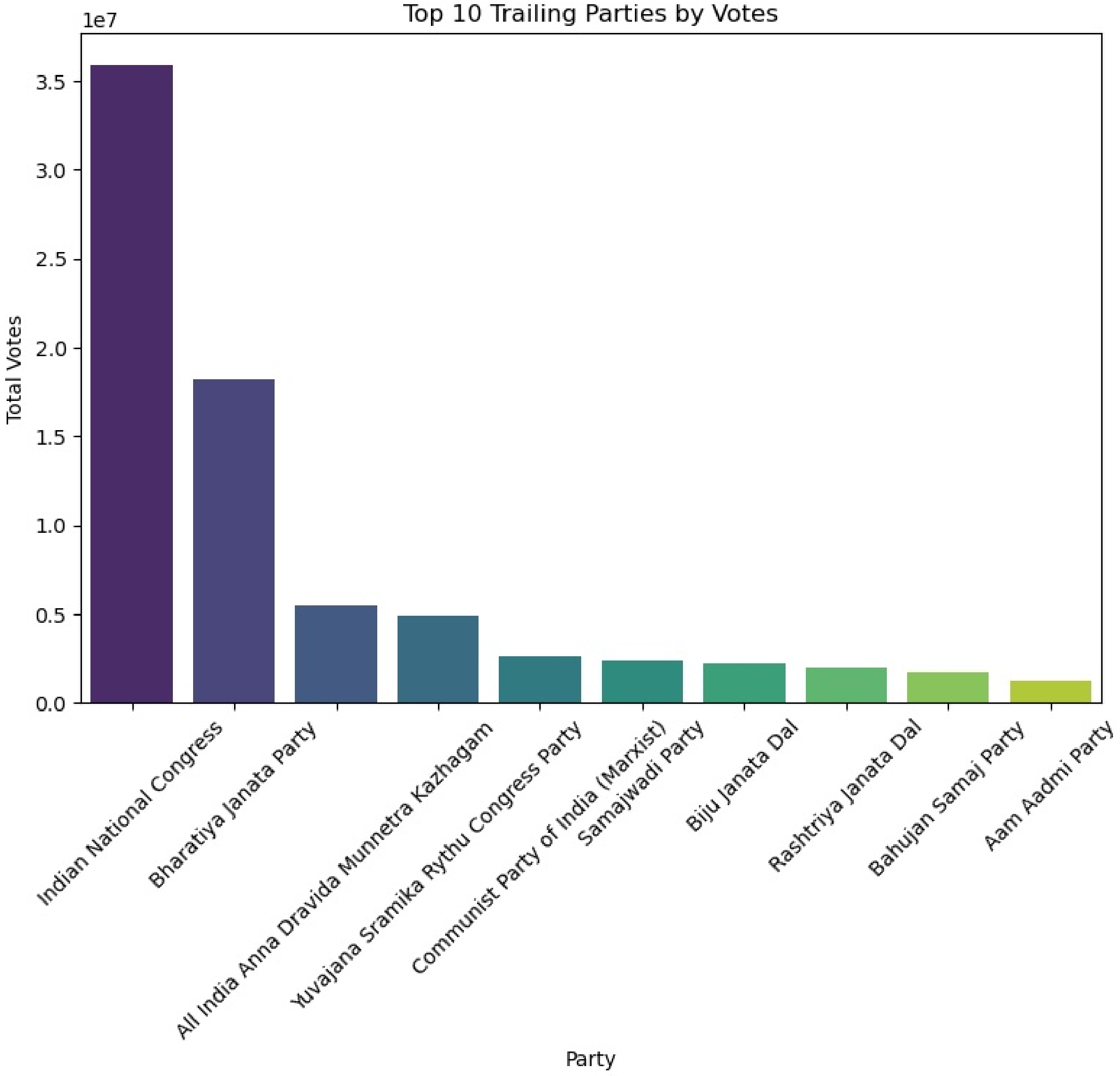
```
trailing_party_votes = data.groupby('Trailing Party')['Margin'].sum().sort_values(ascending=False)
trailing_party_seats = data['Trailing Party'].value_counts()
```

In [10]:

```
plt.figure(figsize=(20, 6))

# Plot votes distribution by trailing party
plt.subplot(1, 2, 1)
sns.barplot(x=trailing_party_votes.index[:10], y=trailing_party_votes.values[:10], palette='viridis')
plt.title('Top 10 Trailing Parties by Votes')
plt.xlabel('Party')
plt.ylabel('Total Votes')
plt.xticks(rotation=45)
```

```
C:\Users\Uttam\AppData\Local\Temp\ipykernel_6676\3677808187.py:5: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable
to `hue` and set `legend=False` for the same effect.

  sns.barplot(x=trailing_party_votes.index[:10], y=trailing_party_votes.values[:10], palette='viridis')
```

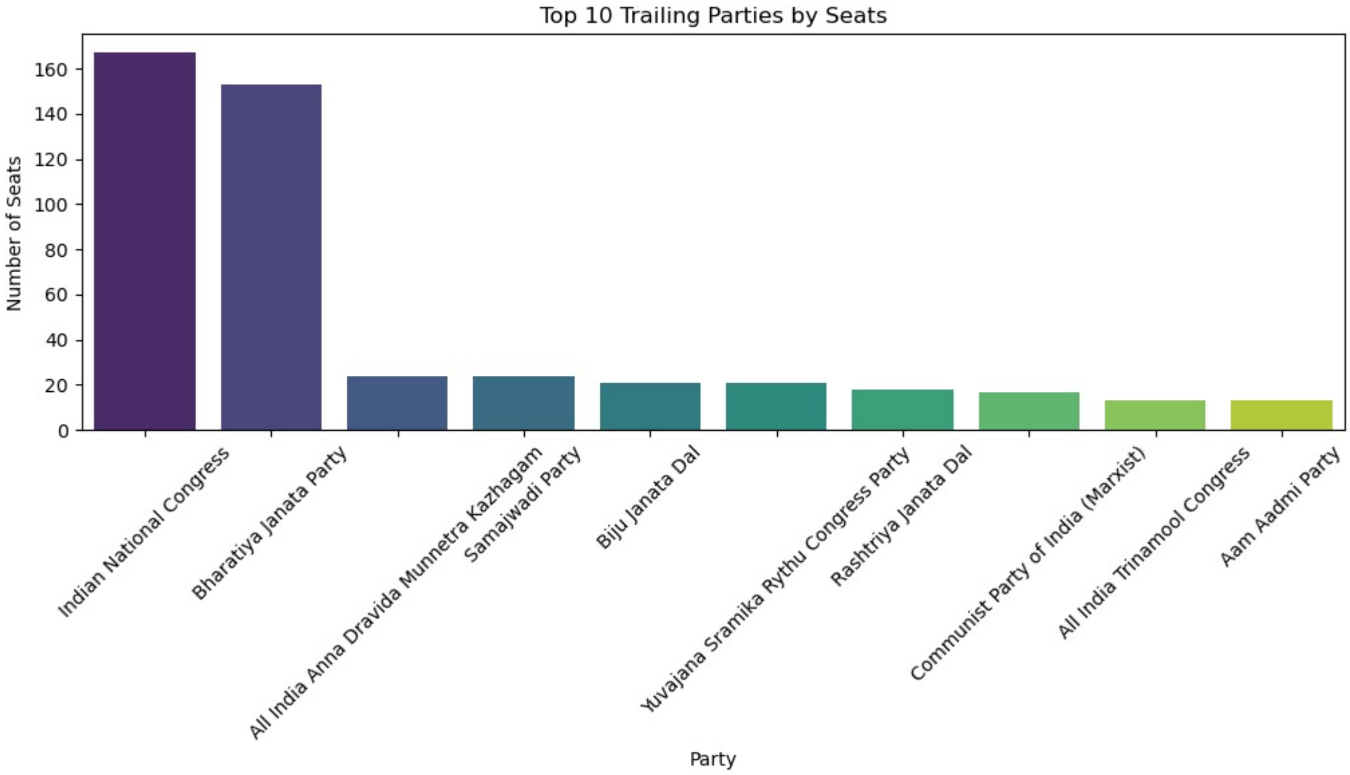
```
Out[10]: ([0, 1, 2, 3, 4, 5, 6, 7, 8, 9],
          [Text(0, 0, 'Indian National Congress'),
           Text(1, 0, 'Bharatiya Janata Party'),
           Text(2, 0, 'All India Anna Dravida Munnetra Kazhagam'),

           Text(3, 0, 'Yuvajana Sramika Rythu Congress Party'),
           Text(4, 0, 'Communist Party of India (Marxist)'),
           Text(5, 0, 'Samajwadi Party'),
           Text(6, 0, 'Biju Janata Dal'),
           Text(7, 0, 'Rashtriya Janata Dal'),
           Text(8, 0, 'Bahujan Samaj Party'),
           Text(9, 0, 'Aam Aadmi Party')])
```



Top 10 trailing party by SEAT

```
In [11]: plt.figure(figsize=(20, 6))
         plt.subplot(1, 2, 2)
         sns.barplot(x=trailing_party_seats.index[:10], y=trailing_party_seats.values[:10], palette='viridis')
         plt.title('Top 10 Trailing Parties by Seats')
         plt.xlabel('Party')
         plt.ylabel('Number of Seats')
         plt.xticks(rotation=45)

         plt.tight_layout()
         plt.show()
```

```
C:\Users\Uttam\AppData\Local\Temp\ipykernel_6676\2591250290.py:3: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable
to `hue` and set `legend=False` for the same effect.

  sns.barplot(x=trailing_party_seats.index[:10], y=trailing_party_seats.values[:10], palette='viridis')
```



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