

# Import Lib

```
In [1]: import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

# Import Dataset

```
In [2]: data = pd.read_csv('election_results_2024.csv')
```

```
In [6]: data.head(10)
```

Out[6]:

	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
5	ARANI	12	THARANIVENTHAN M S	Dravida Munnetra Kazhagam	GAJENDRAN, G.V.	All India Anna Dravida Munnetra Kazhagam	208766	Result Declared
6	Adilabad	1	GODAM NAGESH	Bharatiya Janata Party	ATHRAM SUGUNA	Indian National Congress	90652	Result Declared
7	Agra	18	PROF S P SINGH BAGHEL	Bharatiya Janata Party	SURESH CHAND KARDAM	Samajwadi Party	271294	Result Declared
8	Ahmedabad East	7	HASMUKHBHAI PATEL (H.S.PATEL)	Bharatiya Janata Party	HIMMATSINH PRAHLADSINH PATEL	Indian National Congress	461755	Result Declared
9	Ahmedabad West	8	DINESHBHAI MAKWANA (ADVOCATE)	Bharatiya Janata Party	BHARAT YOGENDRA MAKWANA	Indian National Congress	286437	Result Declared

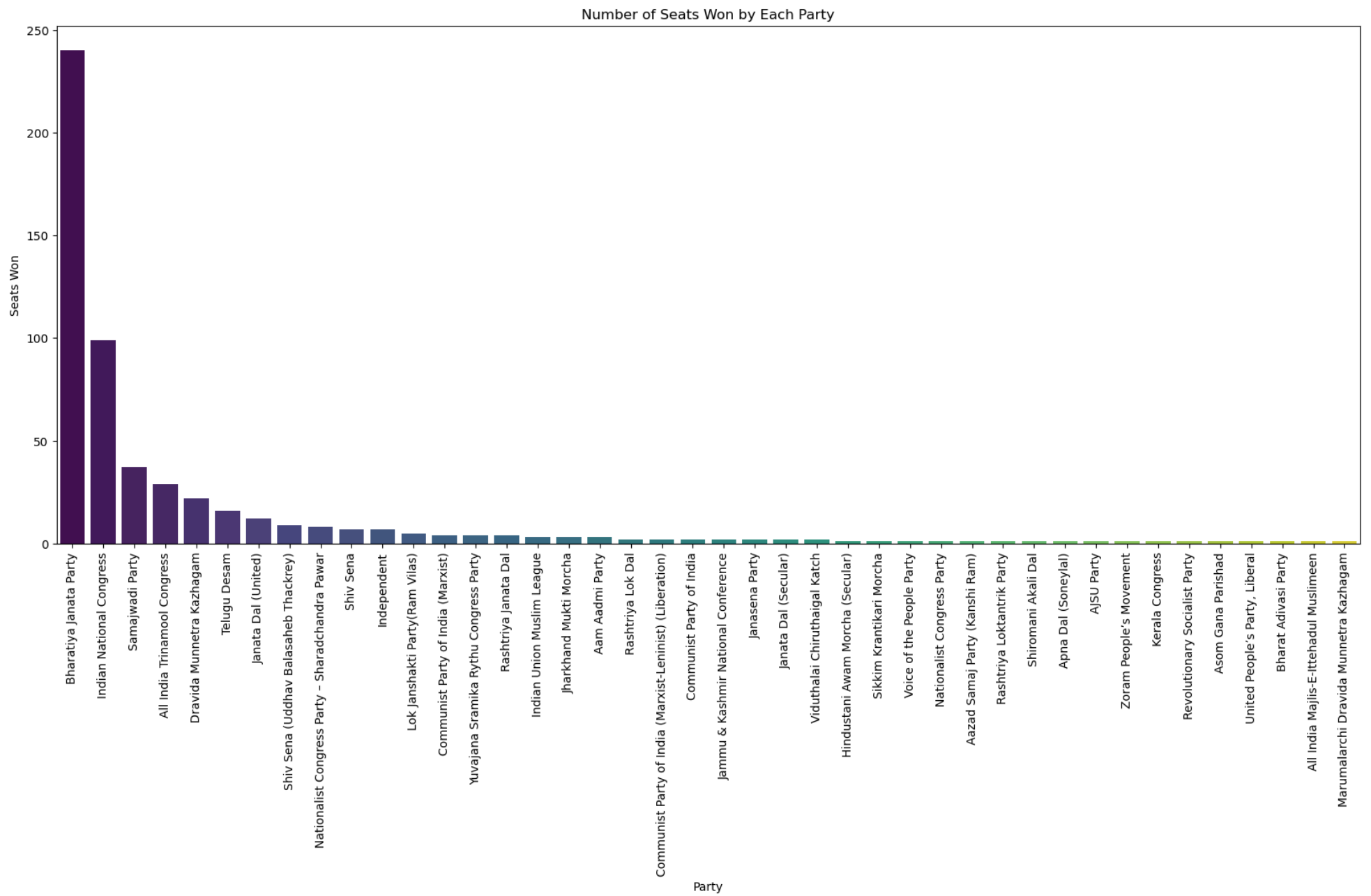
## Party with highest and lowest margin of victory

```
In [8]: party_votes = data.groupby('Leading Party')['Margin'].sum().sort_values(ascending=False)
data['Margin'] = pd.to_numeric(data['Margin'], errors='coerce')

# Party with highest and lowest margin of victory
highest_margin = data.loc[data['Margin'].idxmax()]
lowest_margin = data.loc[data['Margin'].idxmin()]
```

## Plot number of seats won by each party

```
In [10]: 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()
```



**Get the votes for Rahul Gandhi, Narendra Modi, and Amit Shah**

```
In [12]: 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

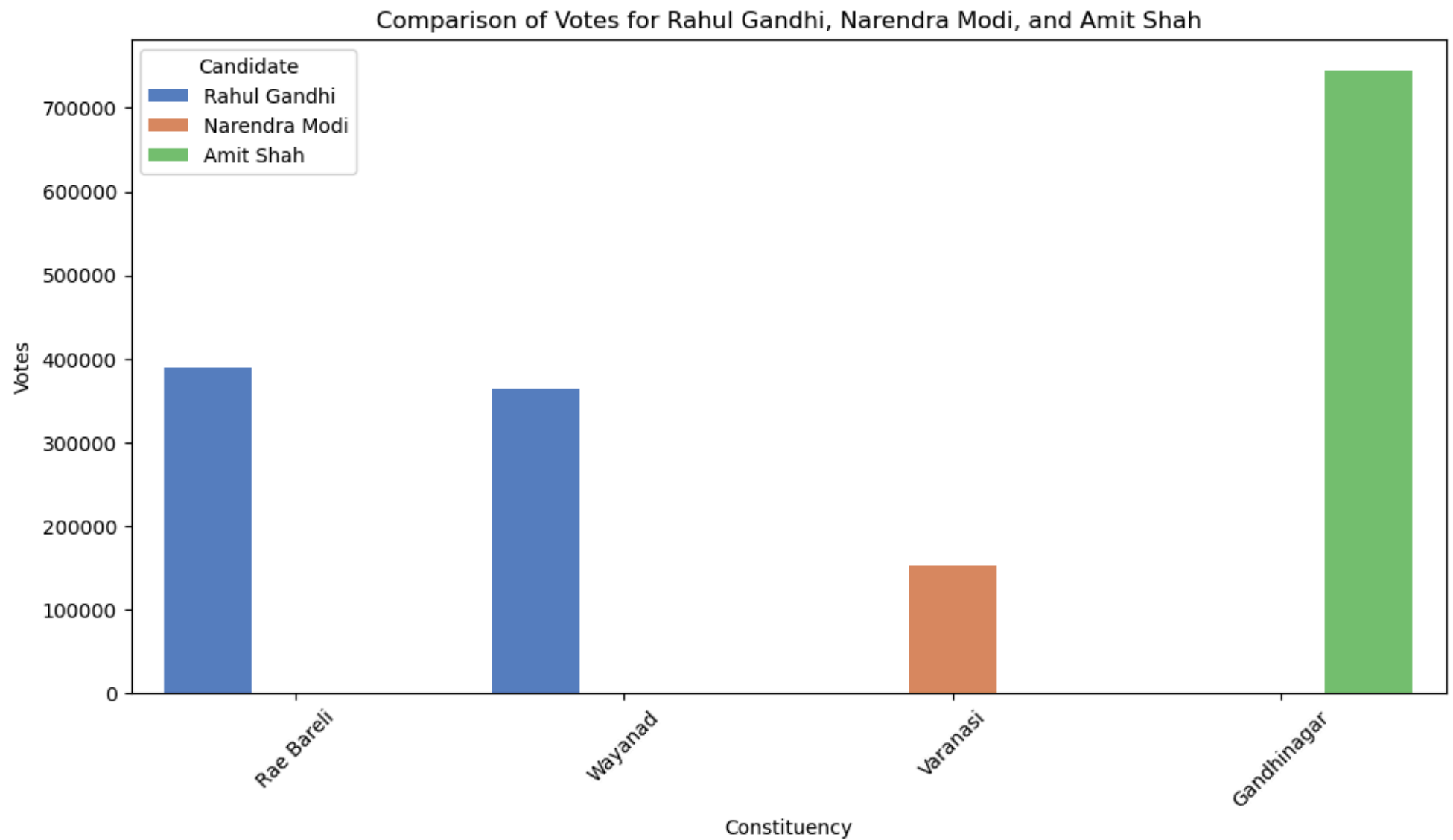
# Get the original constituency names for Rahul Gandhi
rahul_constituencies = list(rahul_entries['Constituency'])

# 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 Constituency"

# 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()
```

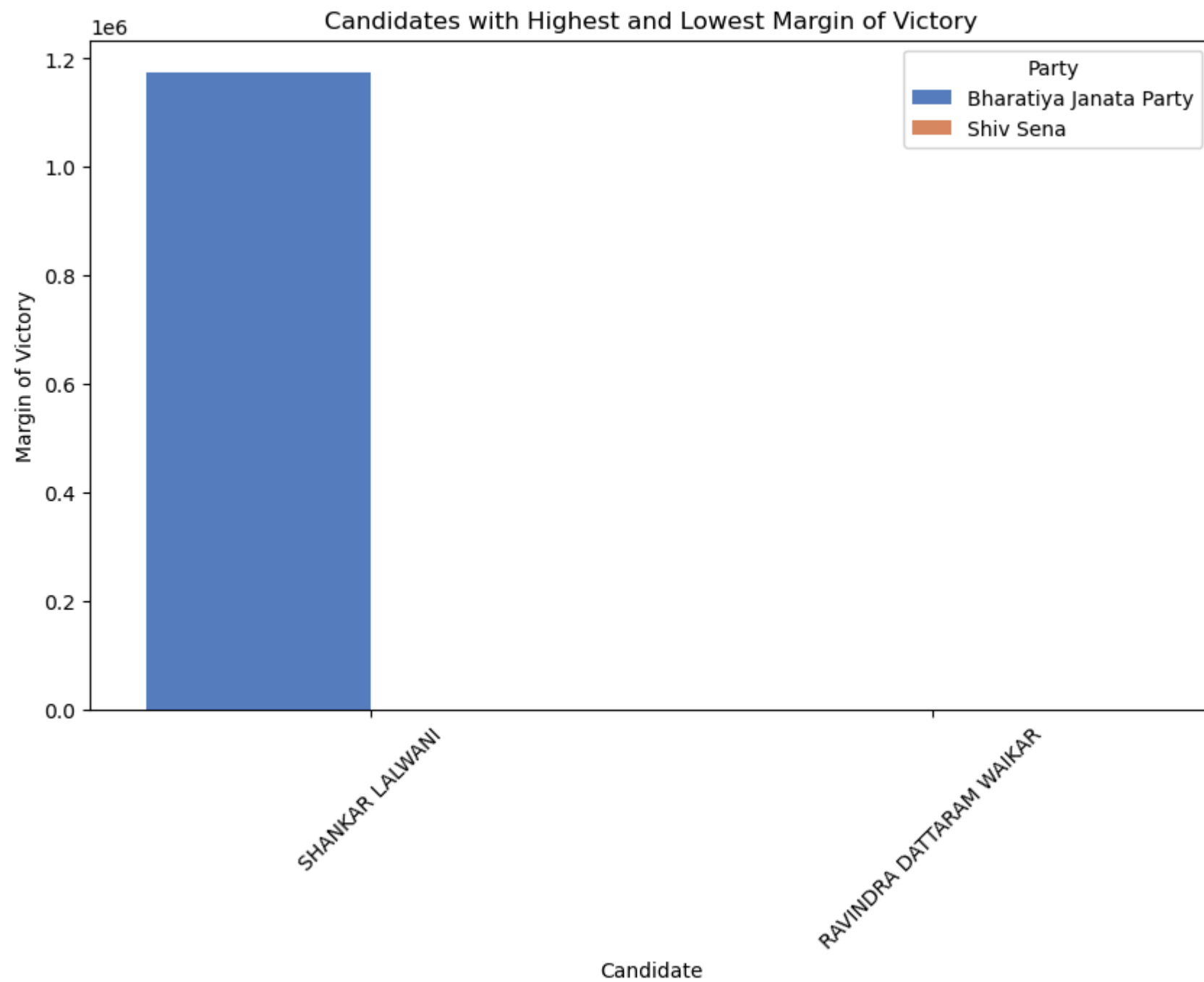


**Highest and lowest Victory Candidate**

```
In [13]: highest_margin_entry = data.loc[data['Margin'].idxmax()]
lowest_margin_entry = data.loc[data['Margin'].idxmin()]

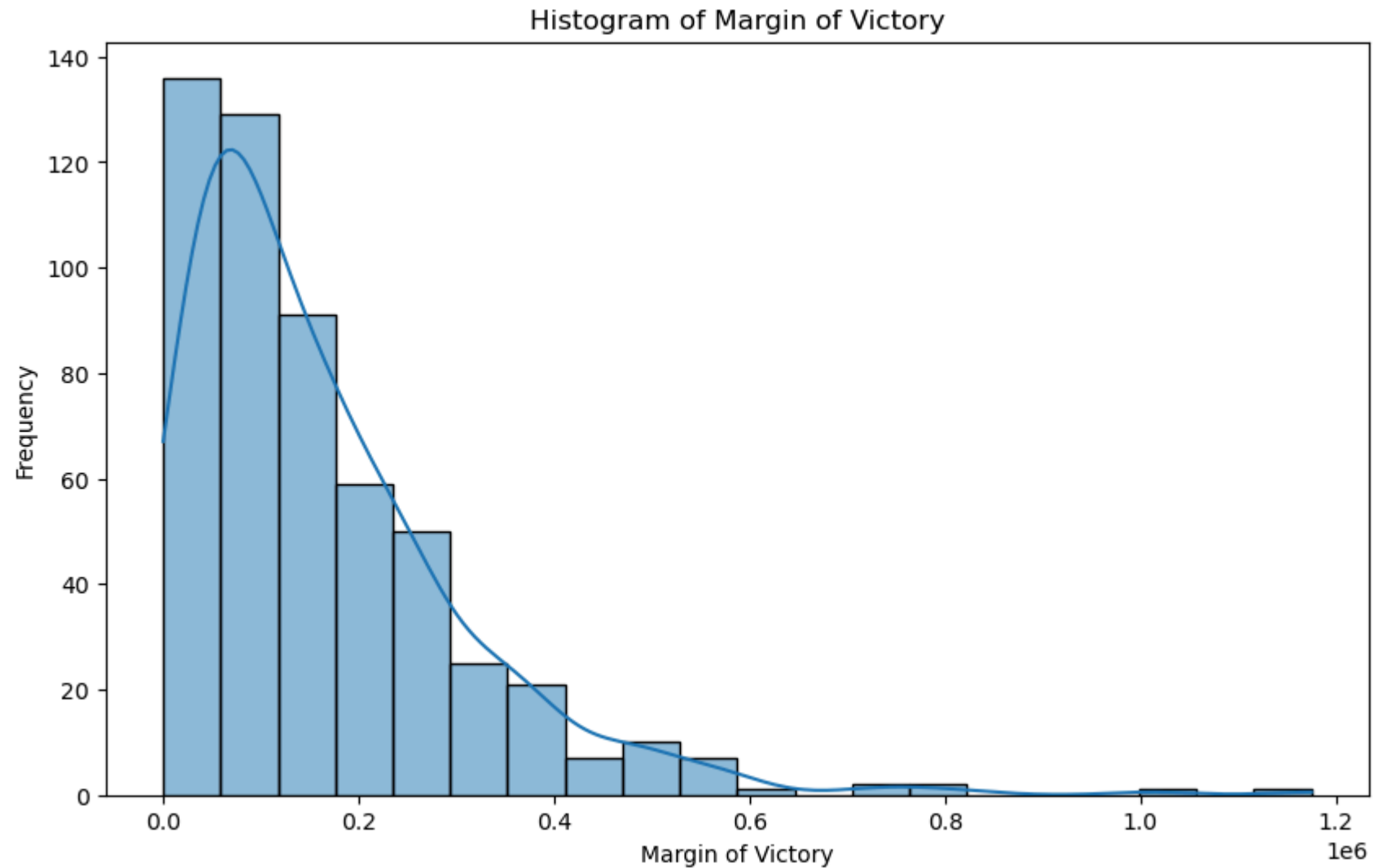
# Combine the data
data_to_plot = pd.DataFrame({
    'Candidate': [highest_margin_entry['Leading Candidate'], lowest_margin_entry['Leading Candidate']],
    'Party': [highest_margin_entry['Leading Party'], lowest_margin_entry['Leading Party']],
    'Margin': [highest_margin_entry['Margin'], lowest_margin_entry['Margin']]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

# 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 [14]: 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**

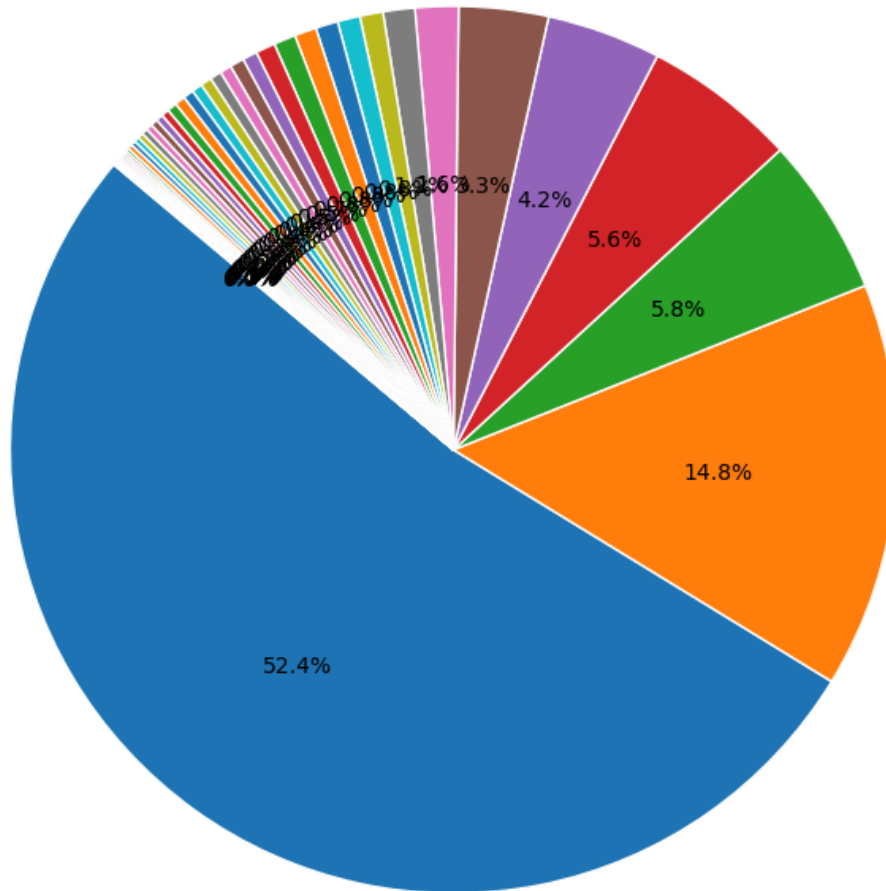
```
In [15]: party_votes = data.groupby('Leading Party')['Margin'].sum().sort_values(ascending=False)

# Plot pie chart
plt.figure(figsize=(10, 8))
wedges, texts, autotexts = plt.pie(party_votes, labels=None, autopct='%1.1f%%', startangle=140, wedgeprops=dict(edgecolor='w'))
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()
```

Votes Distribution by Party



- Bharatiya Janata Party
- Indian National Congress
- Dravida Munnetra Kazhagam
- All India Trinamool Congress
- Telugu Desam
- Samajwadi Party
- Janata Dal (United)
- Shiv Sena (Uddhav Balasaheb Thackrey)
- Communist Party of India (Marxist)
- Lok Janshakti Party(Ram Vilas)
- Nationalist Congress Party – Sharadchandra Pawar
- Indian Union Muslim League
- Shiv Sena
- Independent
- Jammu & Kashmir National Conference
- Janasena Party
- Voice of the People Party
- Jharkhand Mukti Morcha
- Janata Dal (Secular)
- All India Majlis-E-Ittehadul Muslimeen
- Rashtriya Janata Dal
- Communist Party of India
- Marumalarchi Dravida Munnetra Kazhagam
- Bharat Adivasi Party
- Aam Aadmi Party
- Asom Gana Parishad
- Yuva Jana Sramika Rythu Congress Party
- Rashtriya Lok Dal
- Viduthalai Chiruthaigal Katch
- Communist Party of India (Marxist-Leninist) (Liberation)
- Aazad Samaj Party (Kanshi Ram)
- Revolutionary Socialist Party
- Hindustani Awam Morcha (Secular)
- Kerala Congress
- Nationalist Congress Party
- AJSU Party
- Sikkim Krantikari Morcha
- Zoram People's Movement
- United People's Party, Liberal
- Shiromani Akali Dal
- Rashtriya Loktantrik Party
- Apna Dal (Soneylal)

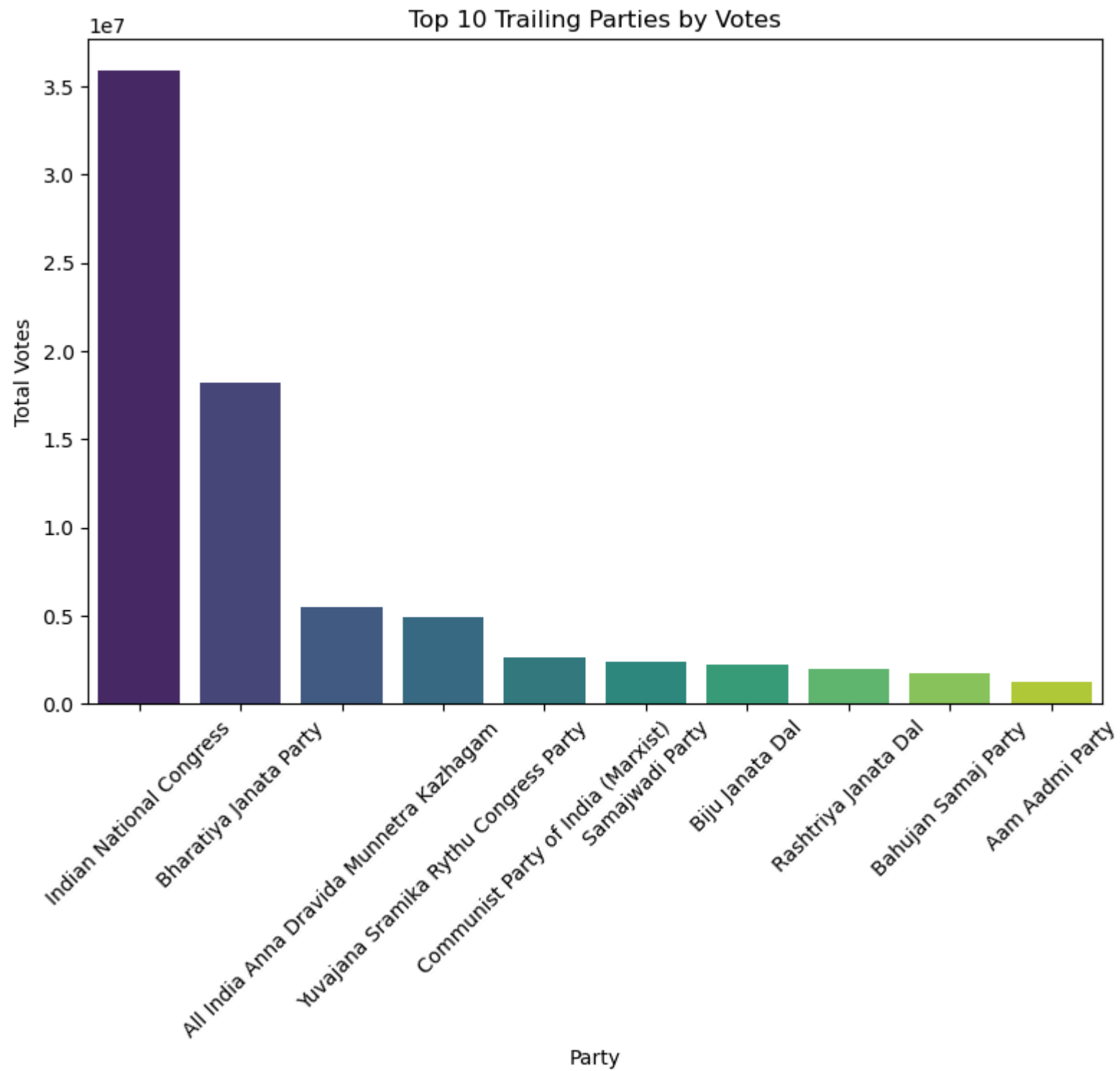
## Top 10 trailing party by VOTE

```
In [16]: trailing_party_votes = data.groupby('Trailing Party')['Margin'].sum().sort_values(ascending=False)
trailing_party_seats = data['Trailing Party'].value_counts()
```

```
In [17]: 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)
```

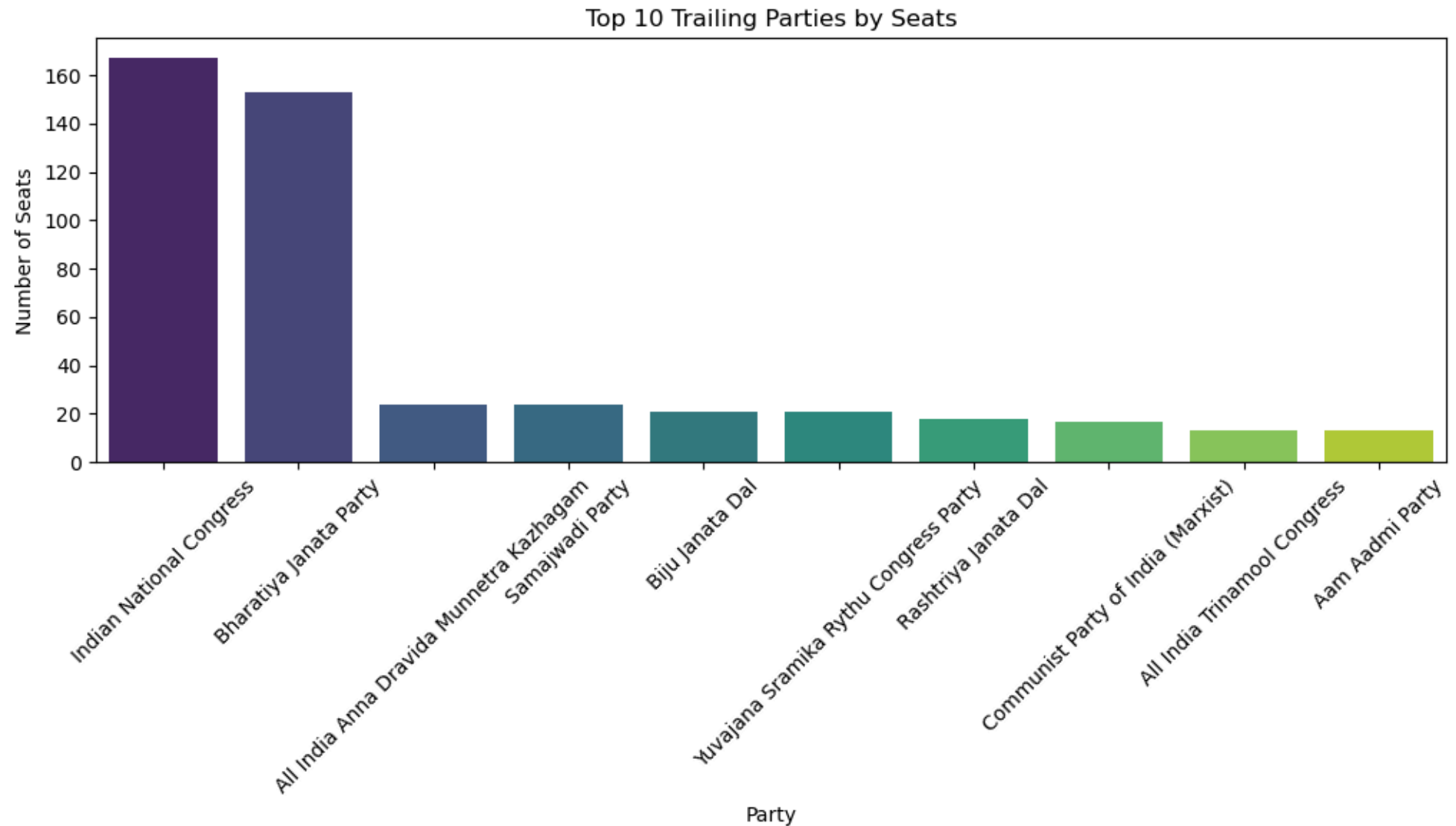
```
Out[17]: (array([0, 1, 2, 3, 4, 5, 6, 7, 8, 9]),
 [Text(0, 0, 'Indian National Congress'),
  Text(1, 0, 'Bharatiya Janata Party'),
  Text(2, 0, 'All India Anna Dravida Munnetra Kazhagam'),
  Text(3, 0, 'Yuva Jansamitha Rythu Congress Party'),
  Text(4, 0, 'Communist Party of India (Marxist)'),
  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 [19]: 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()
```





In [ ]: