Import Lib

In [3]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```
C:\Users\vsara\anaconda3\lib\site-packages\scipy\__init__.py:138: UserWarnin
g: A NumPy version >=1.16.5 and <1.23.0 is required for this version of SciPy
(detected version 1.24.4)
  warnings.warn(f"A NumPy version >={np_minversion} and <{np_maxversion} is r
equired for this version of "
```

Import Dataset

In [4]:
```
data = pd.read_csv('election_results_2024.csv')
```

In [5]:
```
data.sample(10)
```

Out[5]:

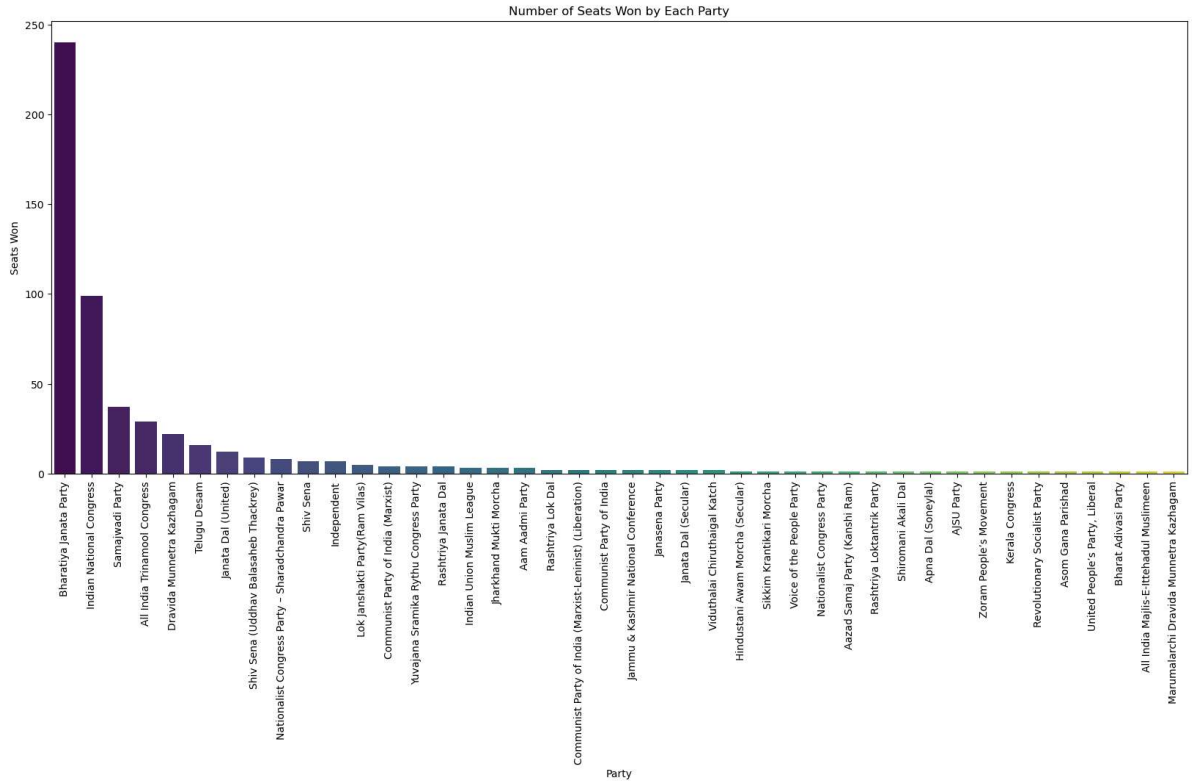
	Constituency	Const. No.	Leading Candidate	Leading Party	Trailing Candidate	Trailing Party	Margin	
329	Madhepura	13	DINESH CHANDRA YADAV	Janata Dal (United)	DA KUMAR CHANDRADEEP	Rashtriya Janata Dal	174534	D
250	Jorhat	14	GAURAV GOGOI	Indian National Congress	TOPON KUMAR GOGOI	Bharatiya Janata Party	144393	D
87	Basti	61	RAM PRASAD CHAUDHARY	Samajwadi Party	HARISH CHANDRA ALIAS HARISH DWIVEDI	Bharatiya Janata Party	100994	D
70	Bangalore central	25	P C MOHAN	Bharatiya Janata Party	MANSOOR ALI KHAN	Indian National Congress	32707	D
12	Akola	6	ANUP SANJAY DHOTRE	Bharatiya Janata Party	ABHAY KASHINATH PATIL	Indian National Congress	40626	D
403	Parbhani	17	JADHAV SANJAY (BANDU) HARIBHAU	Shiv Sena (Uddhav Balasaheb Thackrey)	JANKAR MAHADEV JAGANNATH	Rashtriya Samaj Paksha	134061	D
312	Lakshadweep	1	MUHAMMED HAMDULLAH SAYEED	Indian National Congress	MOHAMMED FAIZAL PP	Nationalist Congress Party – Sharadchandra Pawar	2647	D
83	Bargarh	1	PRADEEP PUROHIT	Bharatiya Janata Party	PARINITA MISHRA	Biju Janata Dal	251667	D
433	Raiganj	5	KARTICK CHANDRA PAUL	Bharatiya Janata Party	KALYANI KRISHNA	All India Trinamool Congress	68197	D
421	RAIGARH	2	RADHESHYAM RATHIYA	Bharatiya Janata Party	DR. MENKA DEVI SINGH	Indian National Congress	240391	D

Party with highest and lowest margin of victory

In [8]:
```
party_votes = data.groupby('Leading Party')['Margin'].sum().sort_values(ascend
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

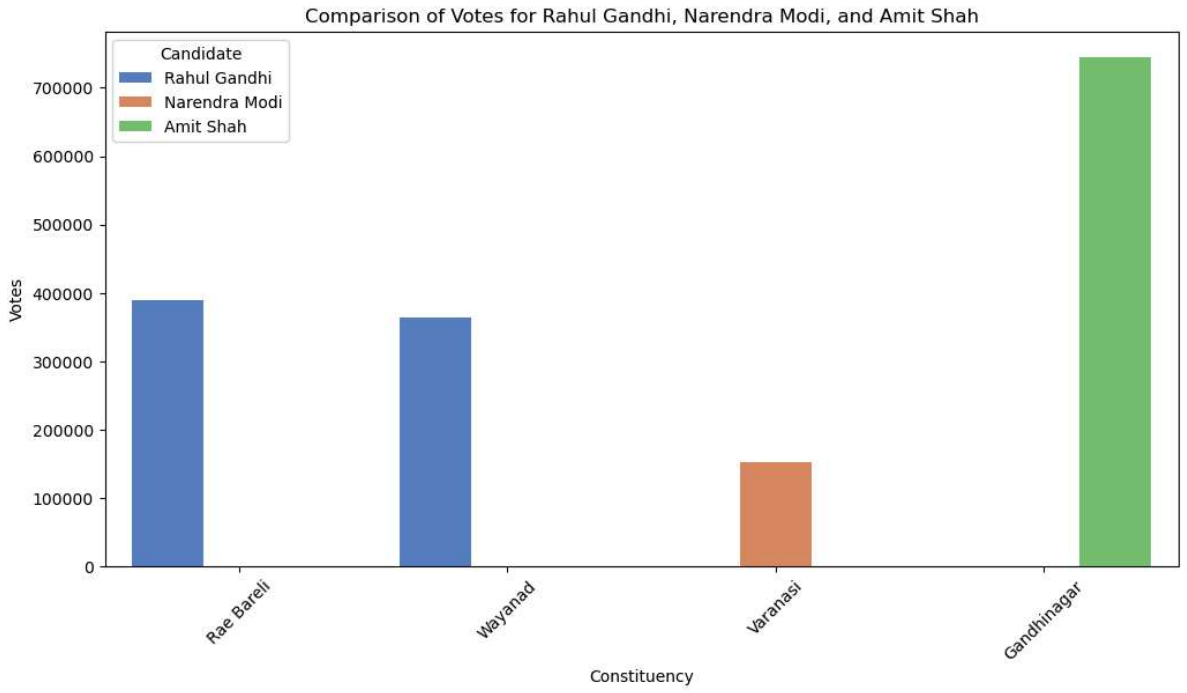
In [10]:
```
leading_party_highest_votes = party_votes.idxmax()
leading_party_lowest_votes = party_votes.idxmin()
# Number of seats won by each party
seats_won = data['Leading Party'].value_counts()
# Plot number of seats won by each party
plt.figure(figsize=(20, 8))
sns.barplot(x=seats_won.index, y=seats_won.values, 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

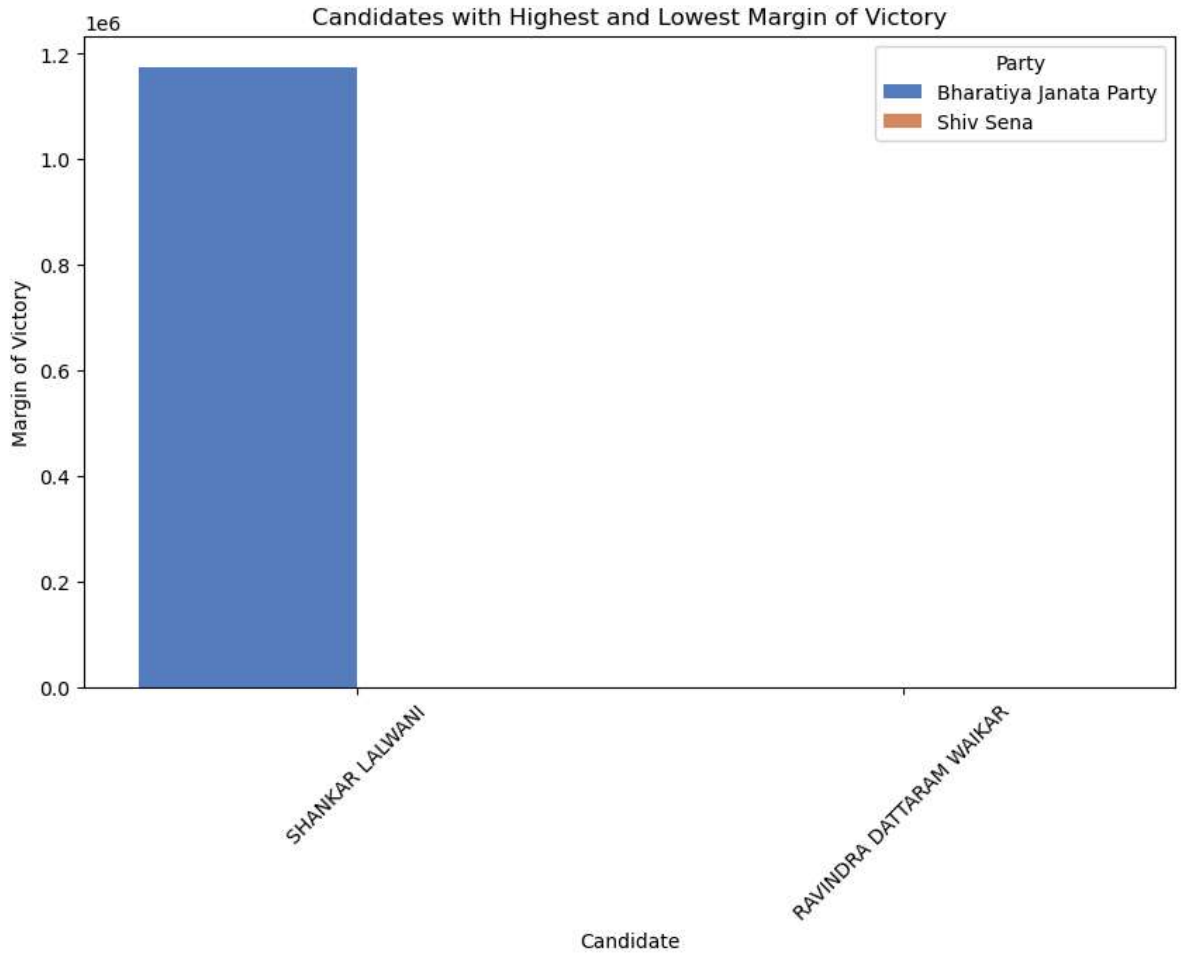
In [12]:

```
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

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

# Combine the data
data_to_plot = pd.DataFrame({
    'Candidate': ['Rahul Gandhi'] * len(rahul_votes) + ['Narendra Modi', 'Amit
    'Constituency': rahul_constituencies + [modi_constituency, amit_constituen
    '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', p
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()
```

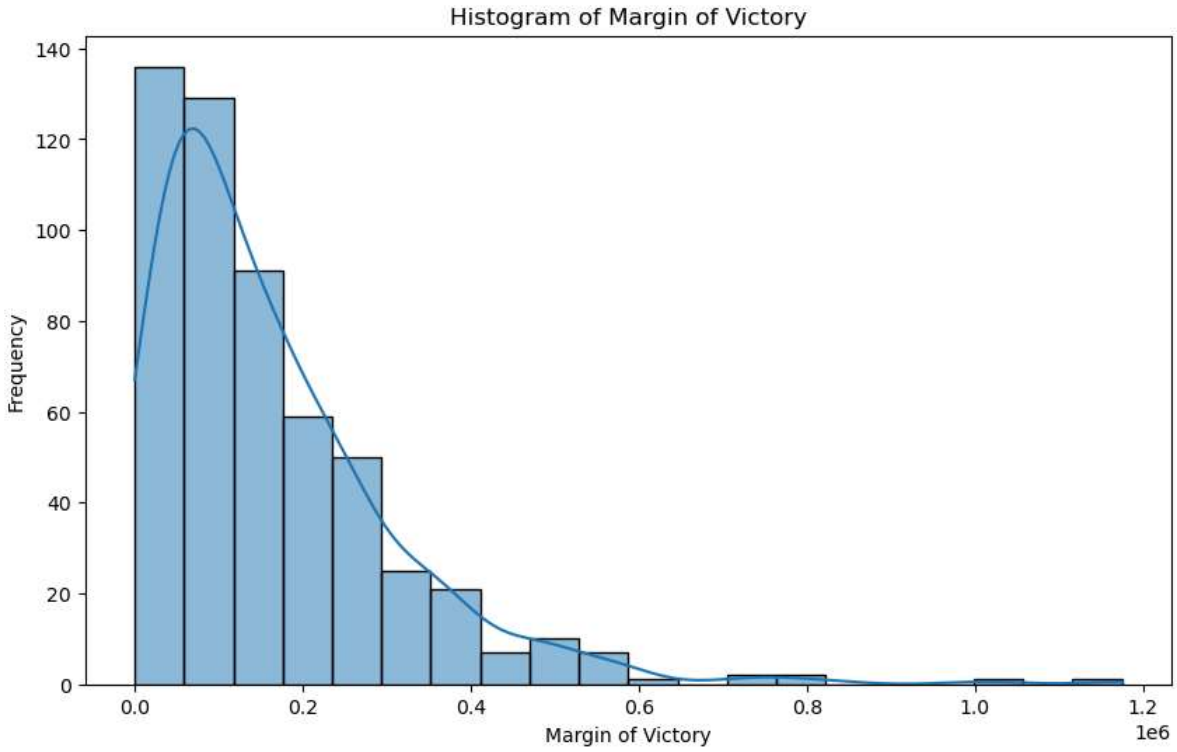


Highest and lowest Victory Candidate

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_ent
    'Party': [highest_margin_entry['Leading Party'], lowest_margin_entry['Lead
    '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
plt.title('Candidates with Highest and Lowest Margin of Victory')
plt.xlabel('Candidate')
plt.ylabel('Margin of Victory')
plt.xticks(rotation=45)
plt.show()
```

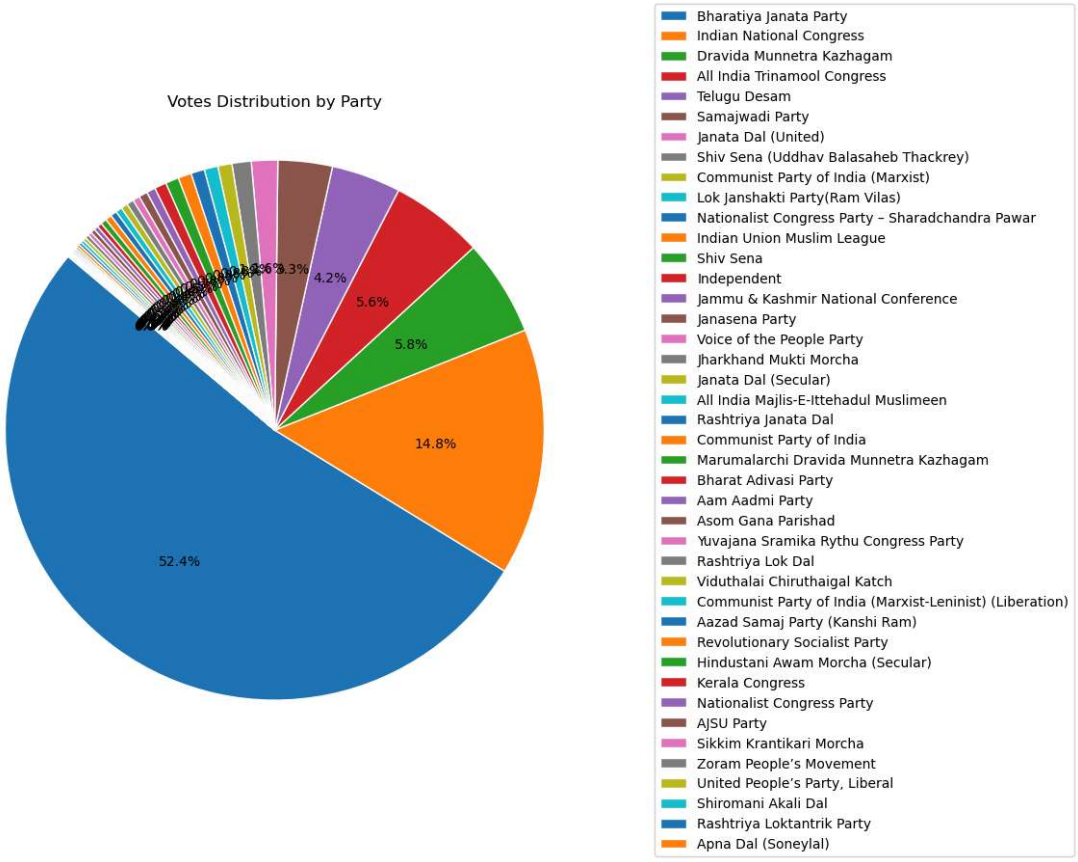


In [14]:
```
plt.figure(figsize=(10, 6))
sns.histplot(data['Margin'], bins=20, kde=True)
plt.title('Histogram of Margin of Victory')
plt.xlabel('Margin of Victory')
plt.ylabel('Frequency')
plt.show()
```



Votes distribution by party

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

# Plot pie chart
plt.figure(figsize=(10, 8))
wedges, texts, autotexts = plt.pie(party_votes, labels=None, autopct='%1.1f%%'
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


plt.show()
```

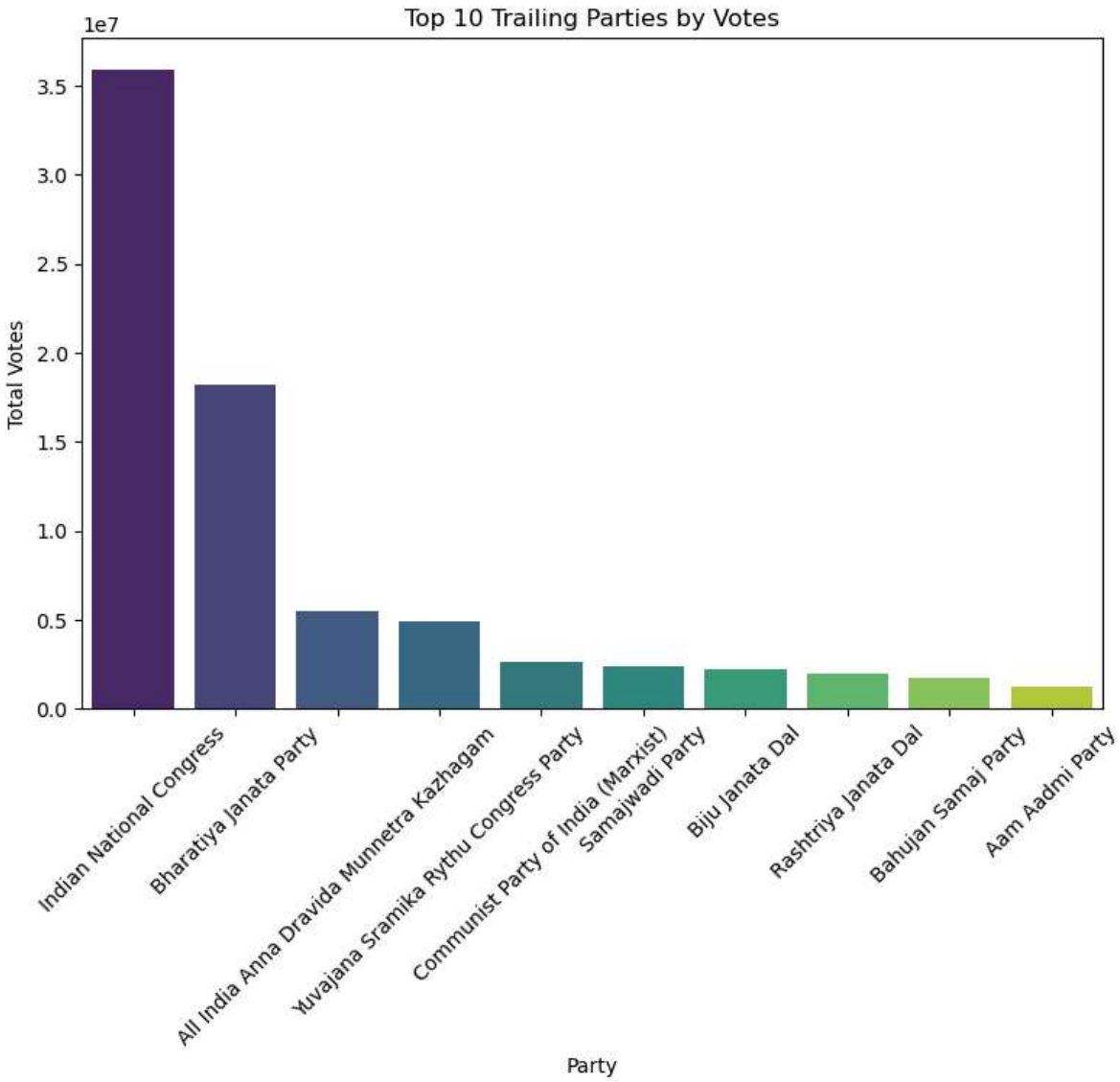


Top 10 trailing party by VOTE

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

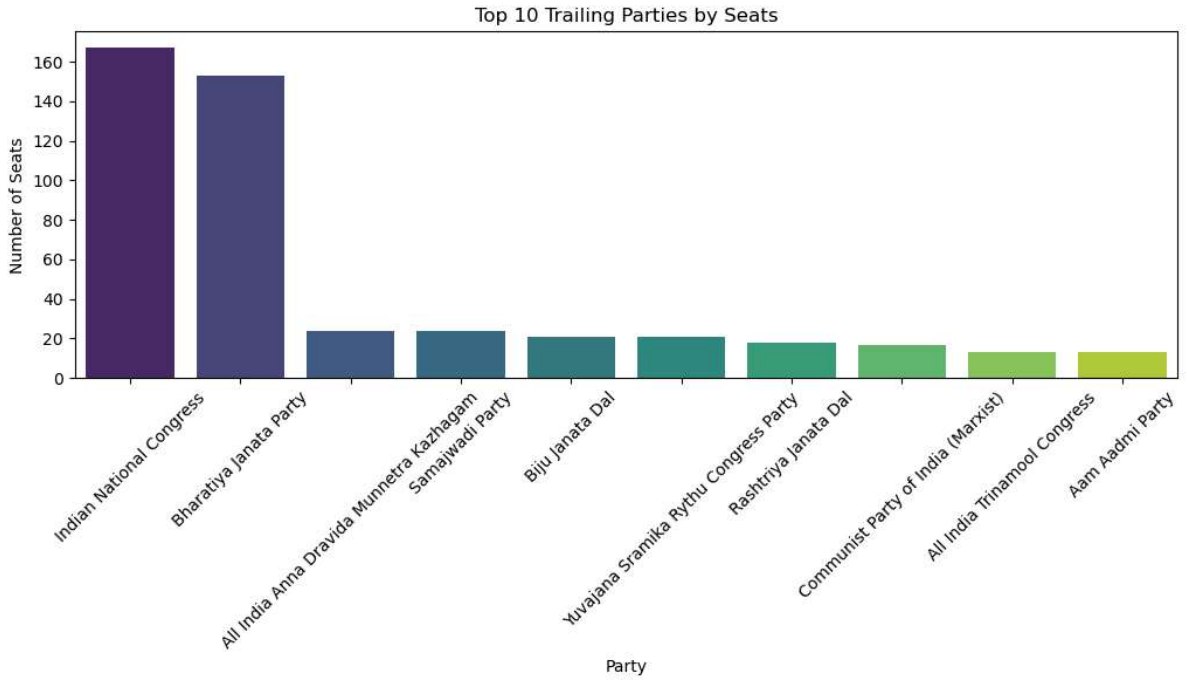
In [17]:
```
plt.figure(figsize=(20, 6))

# Plot votes distribution by trailing party
plt.subplot(1, 2, 1)
sns.barplot(x=trailing_party_votes.index[:10], y=trailing_party_votes.values[:
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, '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 [19]:
```
plt.figure(figsize=(20, 6))
plt.subplot(1, 2, 2)
sns.barplot(x=trailing_party_seats.index[:10], y=trailing_party_seats.values[:
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 [ ]: