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]:

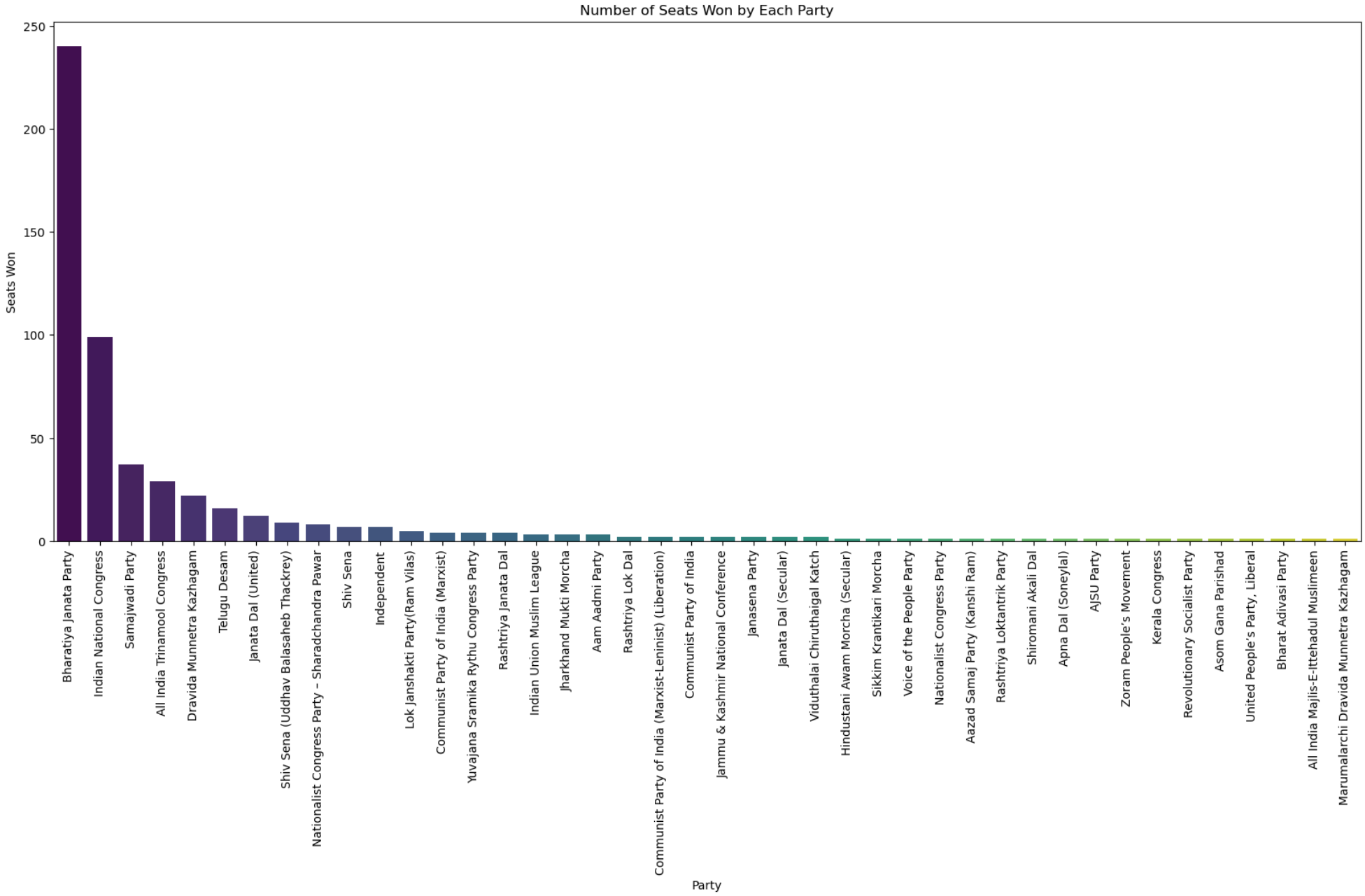
	Constituency	Const. No.	Leading Candidate	Leading Party	Trailing Candidate	Trailing Party	Margin	Status
0	AJMER	13	BHAGIRATH CHOUDHARY	Bharatiya Janata Party	RAMCHANDRA CHOUDHARY	Indian National Congress	329991	Result Declared
1	ALWAR	8	BHUPENDER YADAV	Bharatiya Janata Party	LALIT YADAV	Indian National 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

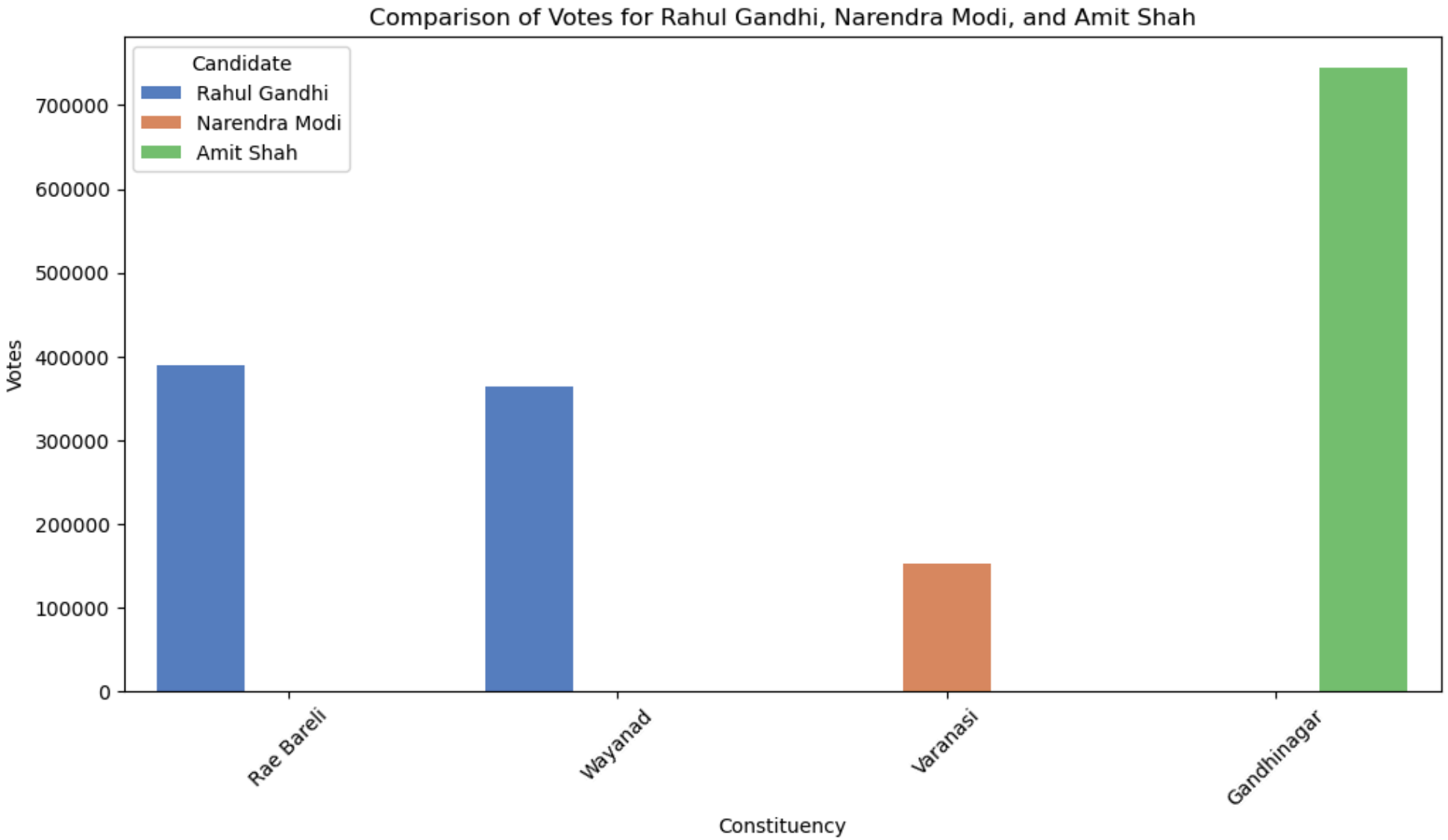
In [10]:
```
leading_party_highest_votes = party_votes.idxmax()
leading_party_lowest_votes = party_votes.idxmin()
# Number of seats won by each party
seats_won = data['Leading Party'].value_counts()
# Plot number of seats won by each party
plt.figure(figsize=(20, 8))
sns.barplot(x=seats_won.index, y=seats_won.values,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

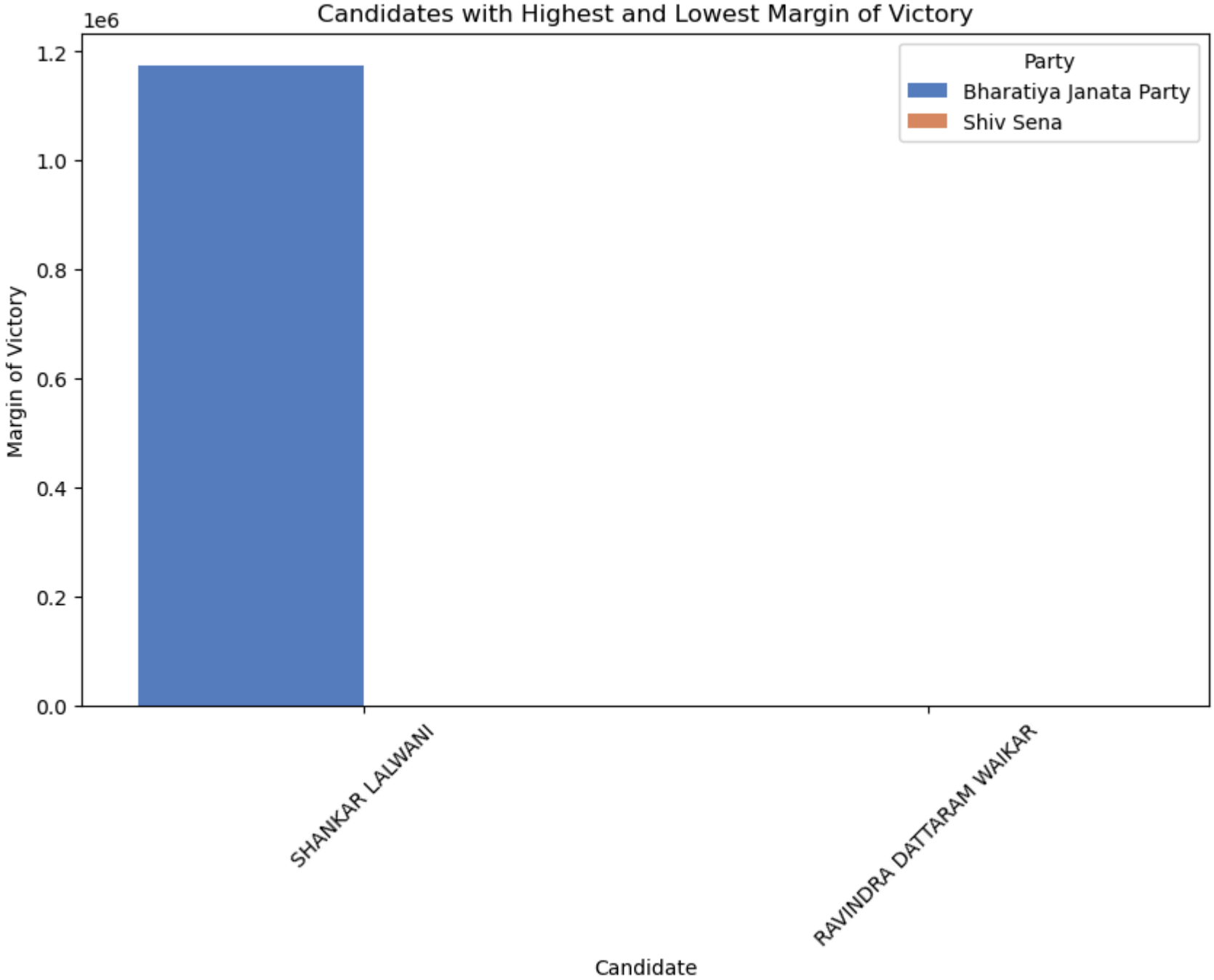
In [12]:

```
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()
```

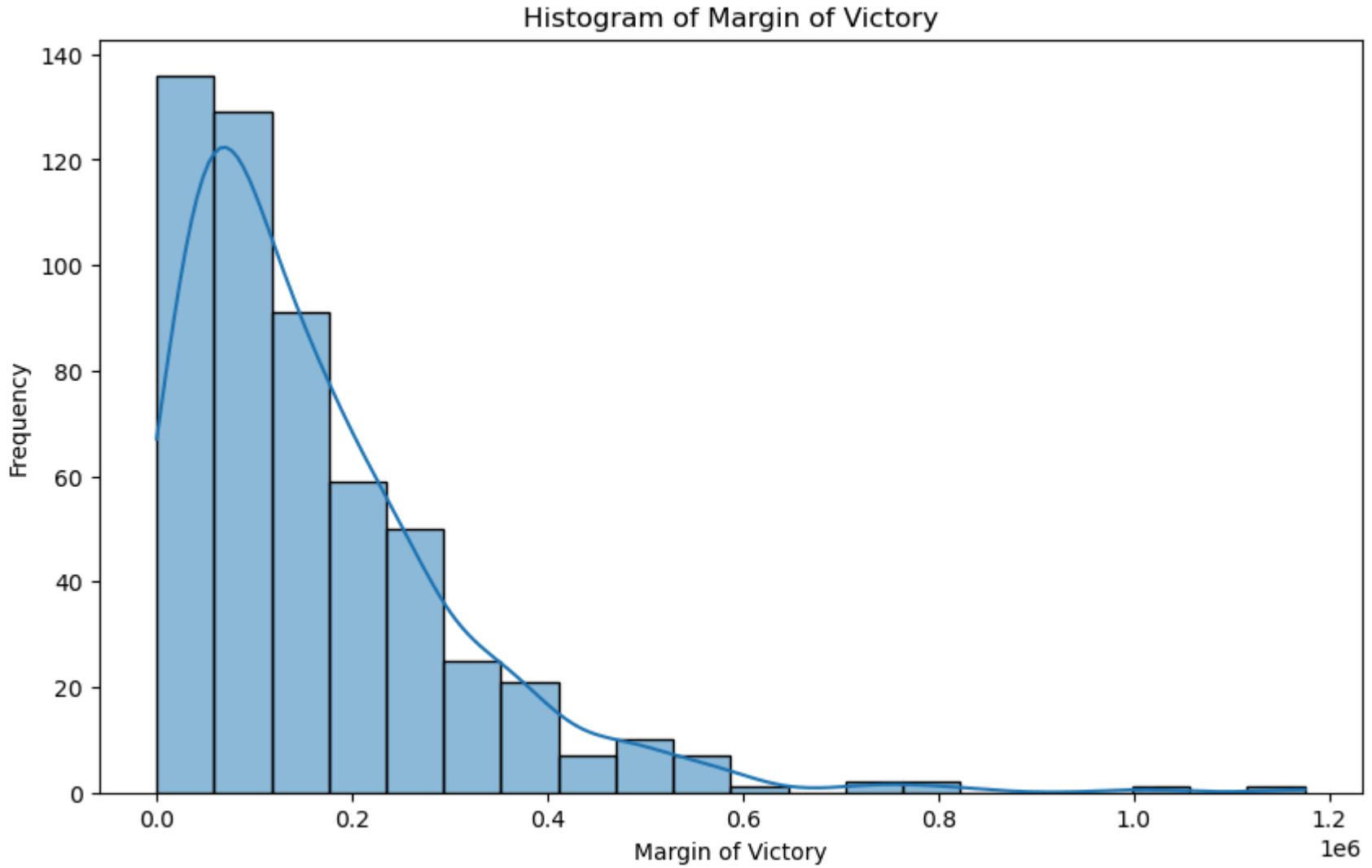


Highest and lowest Victory Candidate

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()
```

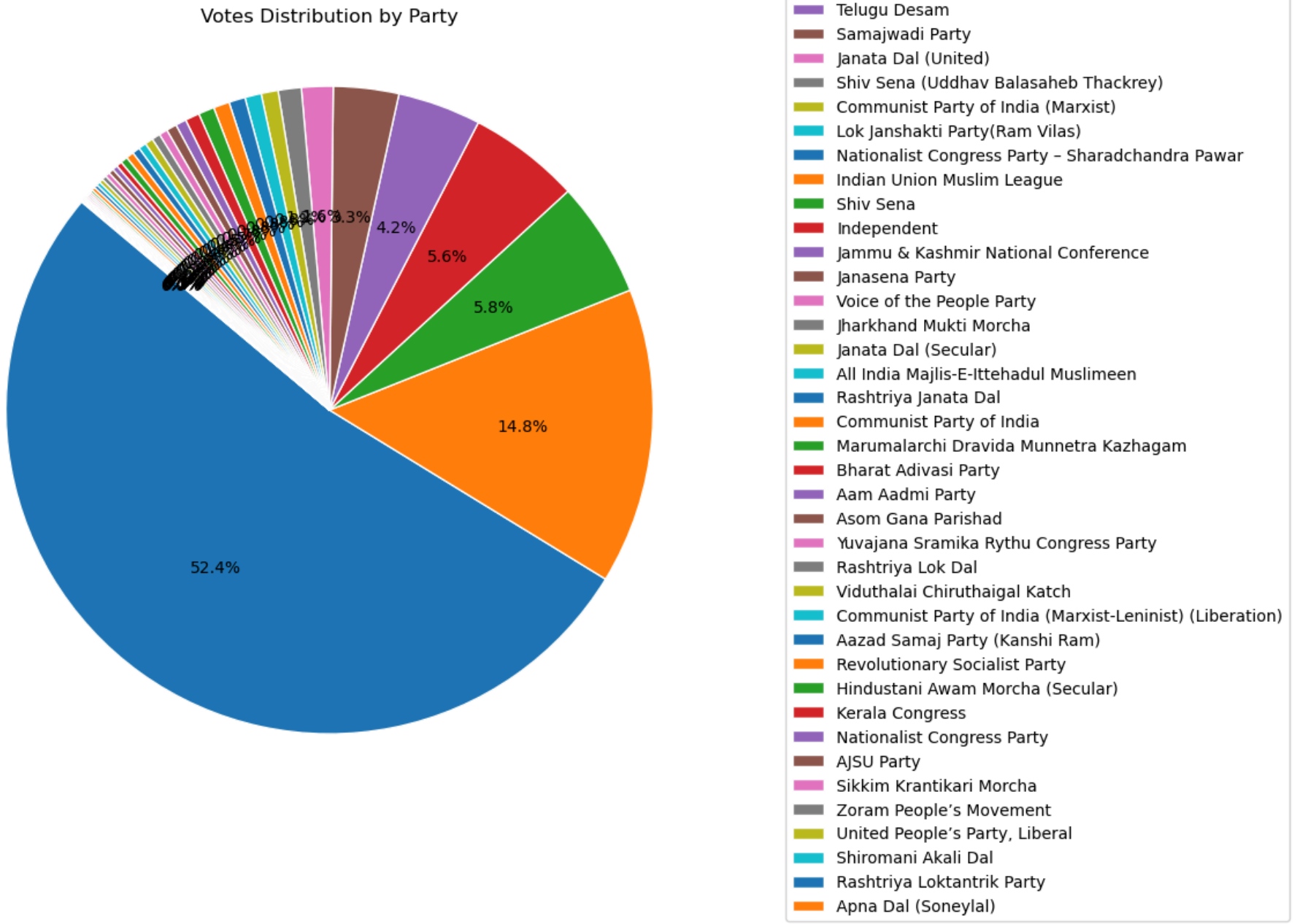

Candidates with Highest and Lowest Margin of Victory
1e6
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Margin of Victory
Party
Bharatiya Janata Party
Shiv Sena
SHANKAR LALWANI
RAVINDRA DATTARAM WAIKAR
Candidate

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()
```

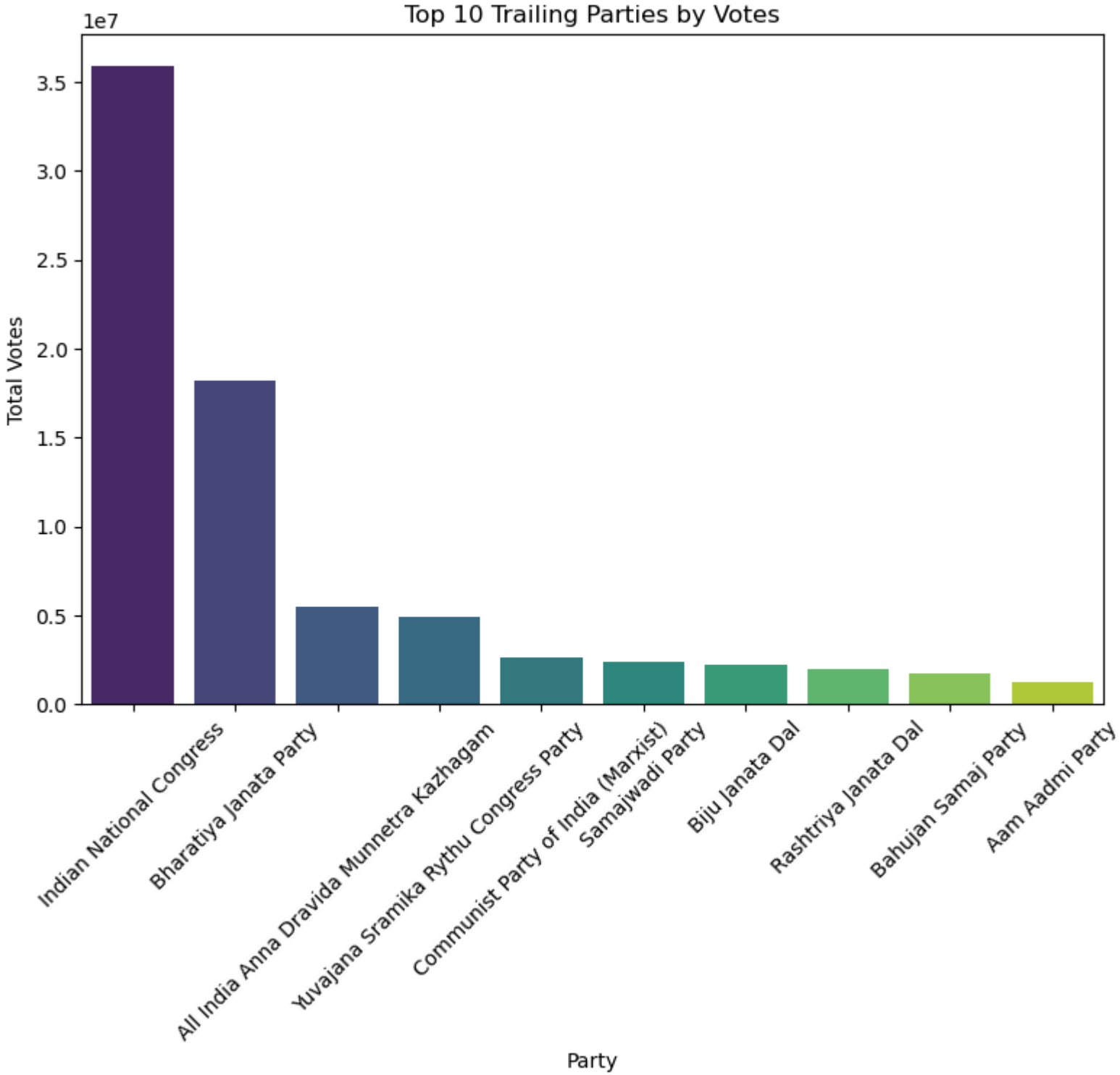

Votes Distribution by Party
52.4%
14.8%
5.8%
5.6%
4.2%
3.3%
Bharatiya Janata Party
Indian National Congress
Dravida Munnetra Kazhagam
All India Trinamool Congress
Telugu Desam
Samajwadi Party
Janata Dal (United)
Shiv Sena (Uddhav Balasaheb Thackrey)
Communist Party of India (Marxist)
Lok Janshakti Party(Ram 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
Yuvajana 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()
```

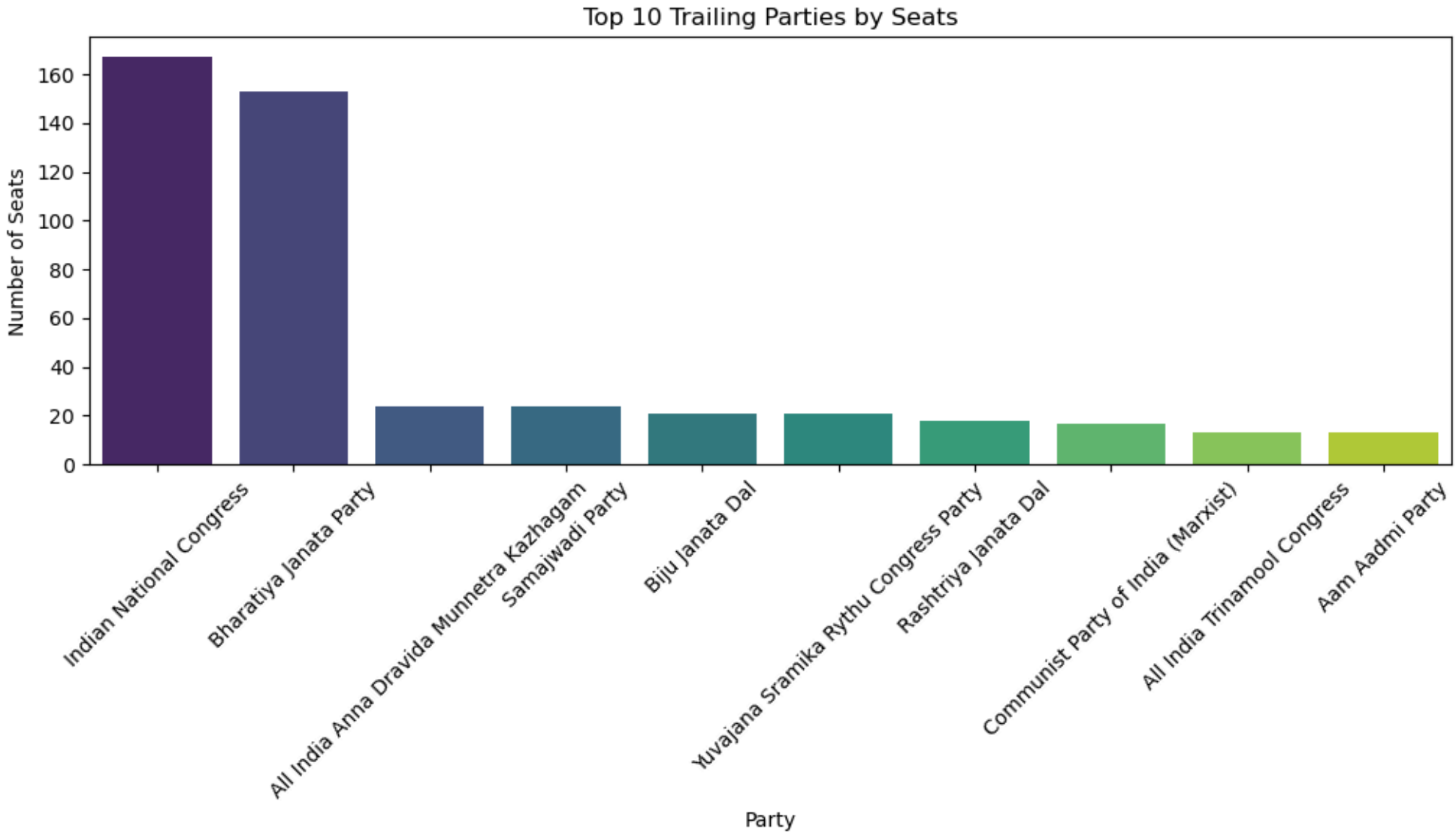
In [17]:
```
plt.figure(figsize=(20, 6))

# 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, '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 Parties by Votes
1e7
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Total Votes
Indian National Congress
Bharatiya Janata Party
All India Anna Dravida Munnetra Kazhagam
Yuvajana Sramika Rythu Congress Party
Communist Party of India (Marxist)
Samajwadi Party
Biju Janata Dal
Rashtriya Janata Dal
Bahujan Samaj Party
Aam Aadmi Party
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 [ ]: