

Seasonal Trends and Functional Differences in Hangang Park visitation (2018-2024)

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link to paper



Overview

This study analyzes monthly visitation data for Hangang Parks from 2018 to 2024 to identify seasonal trends and functional differences among parks. Data came from the Seoul Open Data Plaza and the Ministry of the Interior and Safety.

Research Questions

Do Hangang Parks show repeated seasonal visitation patterns?
How do facility types relate to visitor volume?
Do parks function more as leisure destinations or commuting corridors?

Key Findings

1. Clear Seasonal Pattern

Highest visitation: May & October
Lowest visitation: Winter months, with declines also in summer heat
Seasonal variation is structural and recurring every year

2. Bicycle Use Reveals Park Functions

Banpo & Ttukseom: Strong correlation between cyclists and visitors
→ Used mainly for recreation
Gangseo: High bicycle volume but lower total visitation
→ Used largely as a commuting corridor

3. Exercise Facility Usage

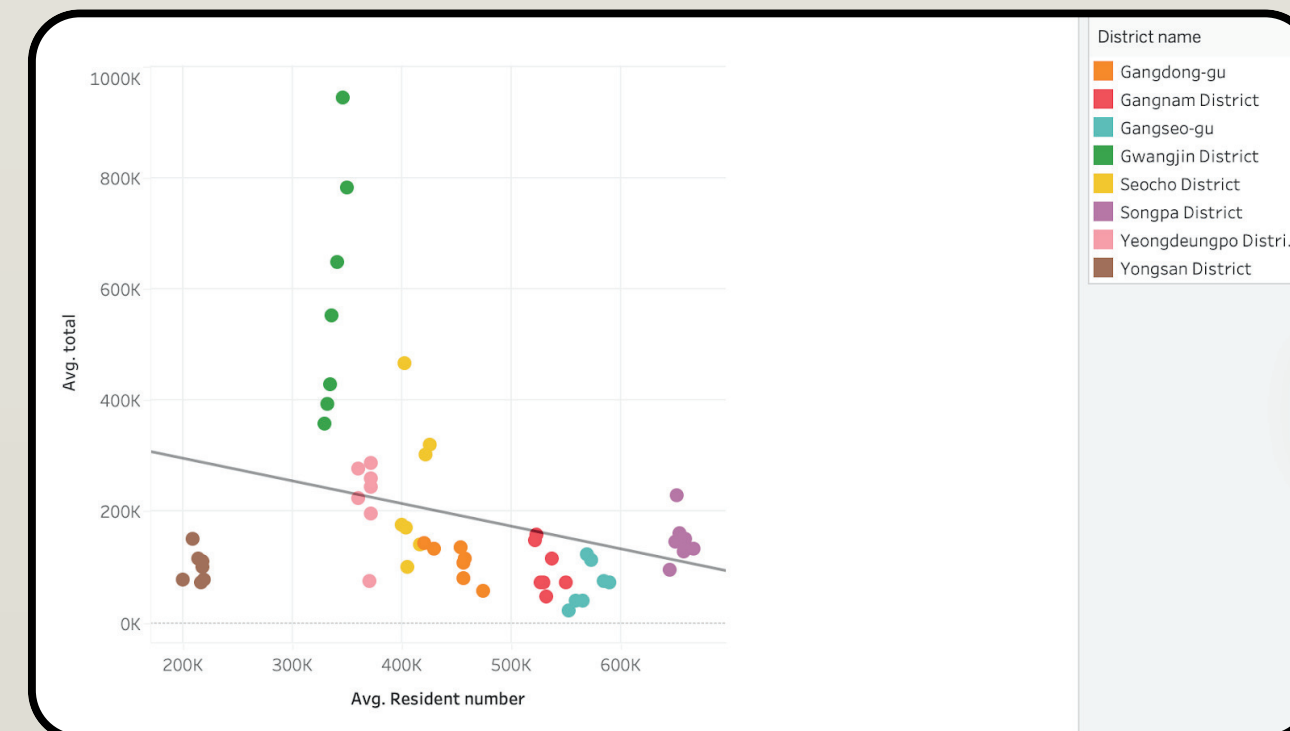
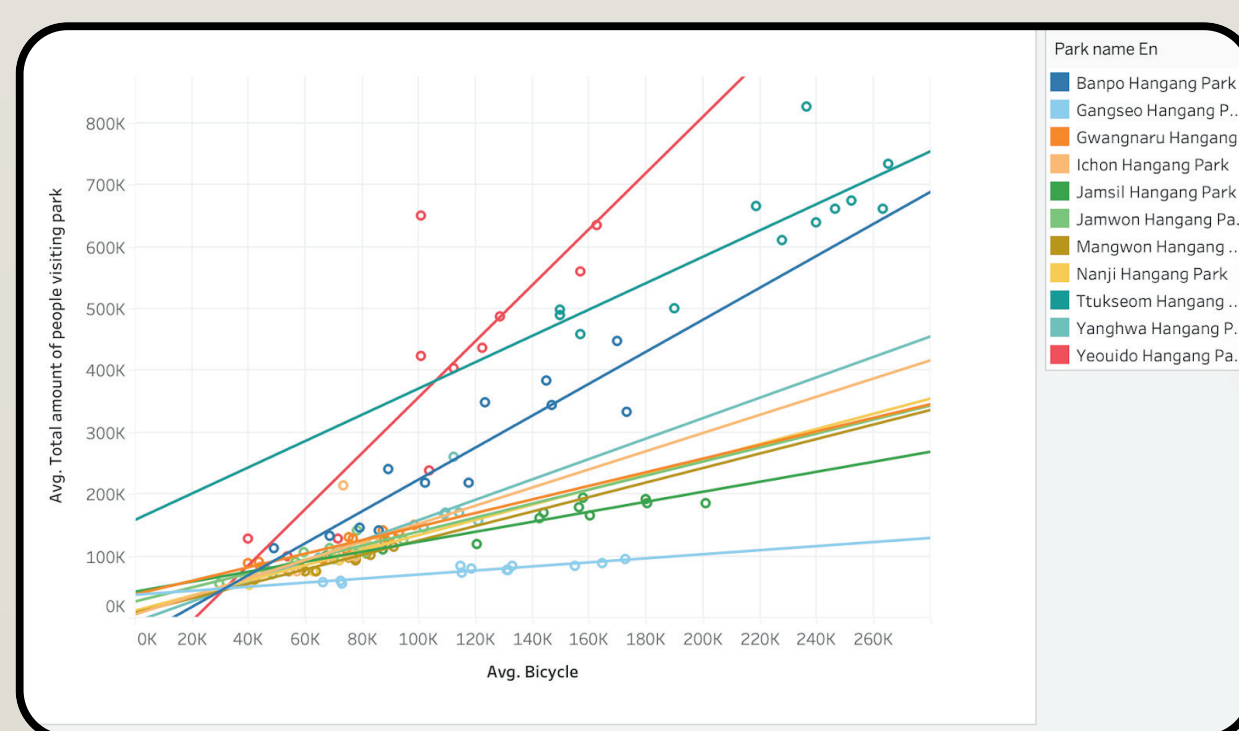
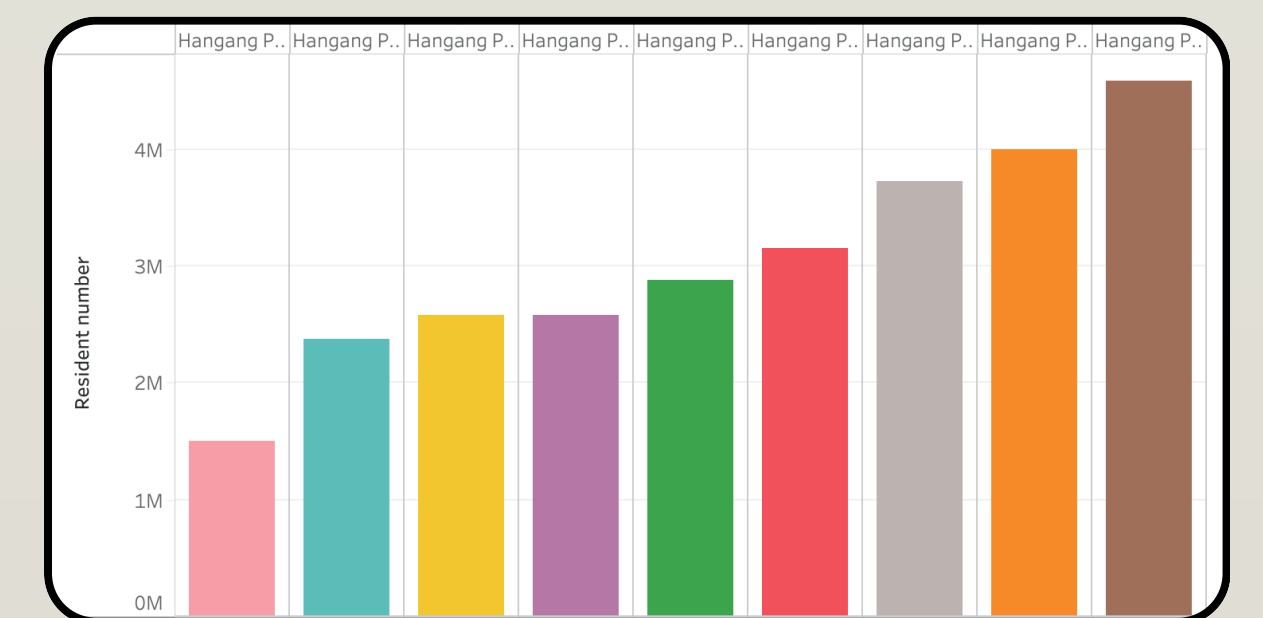
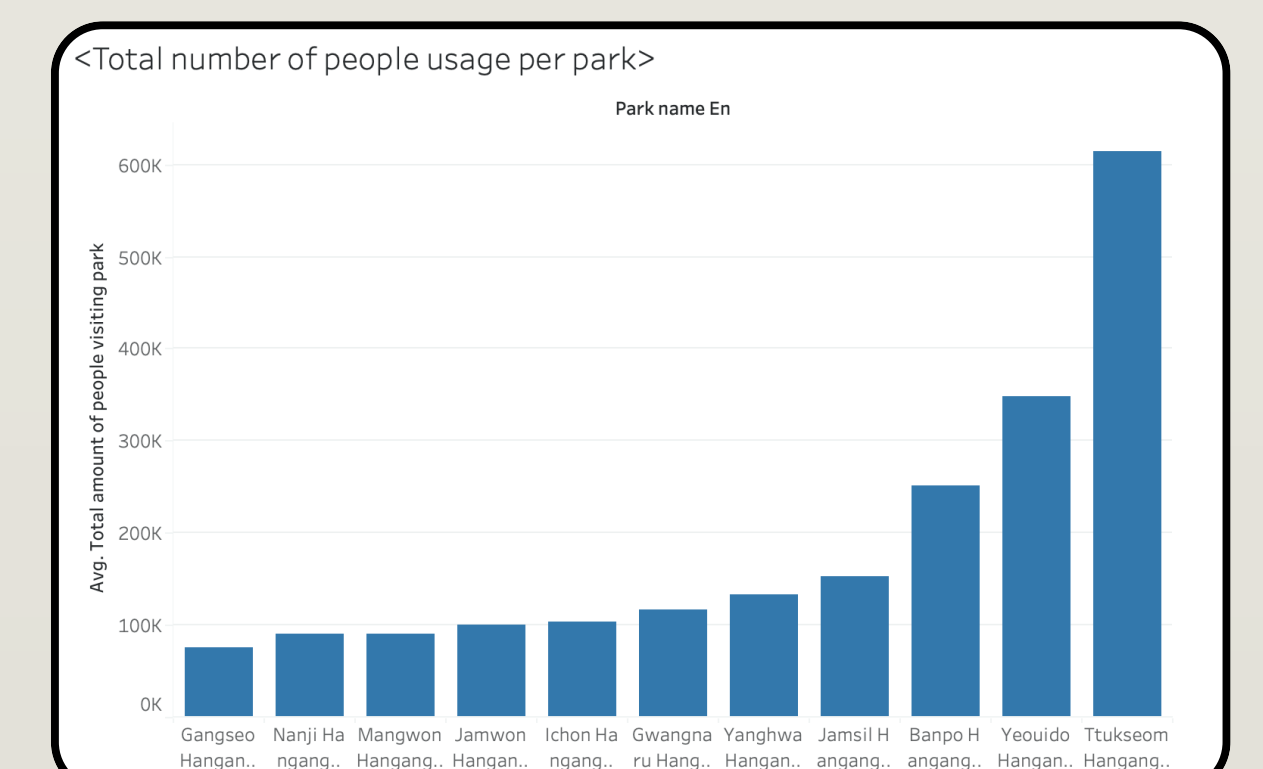
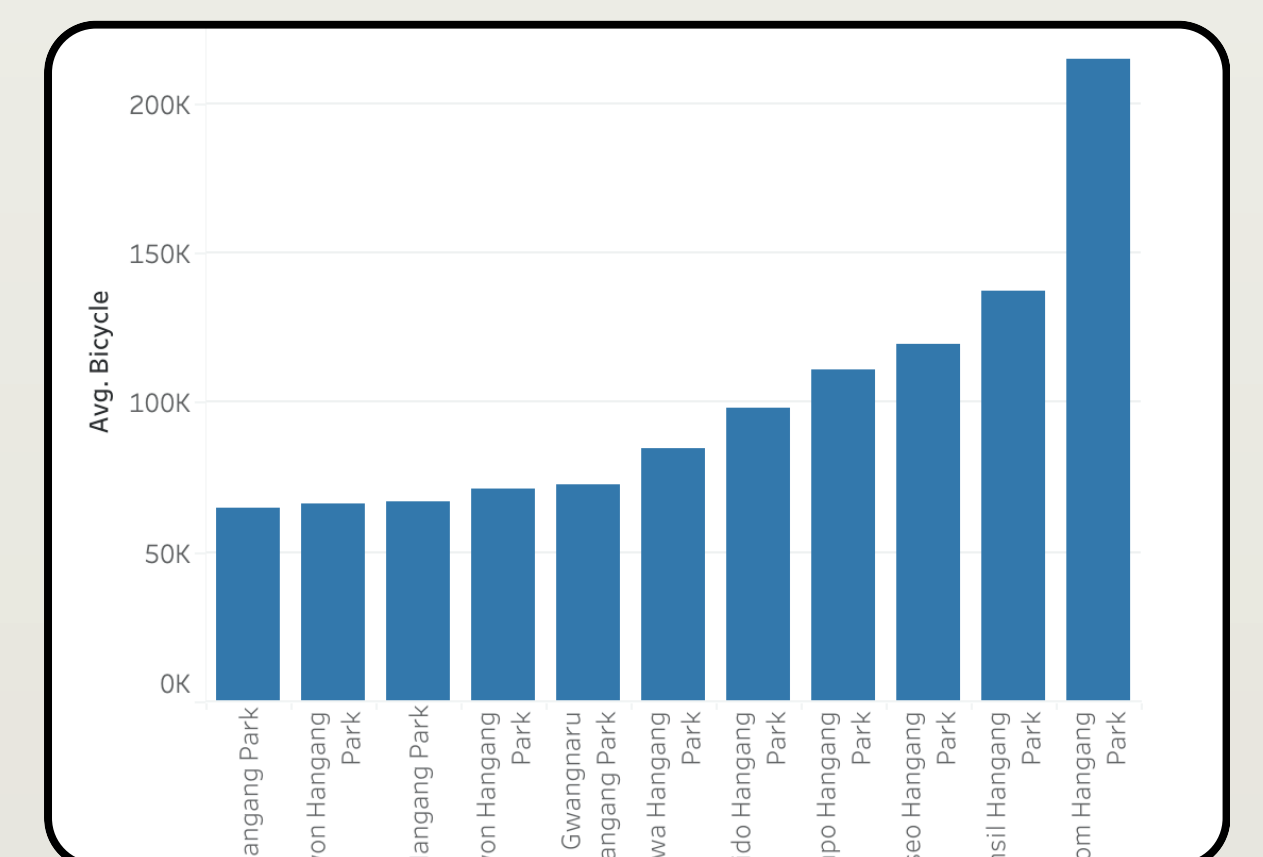
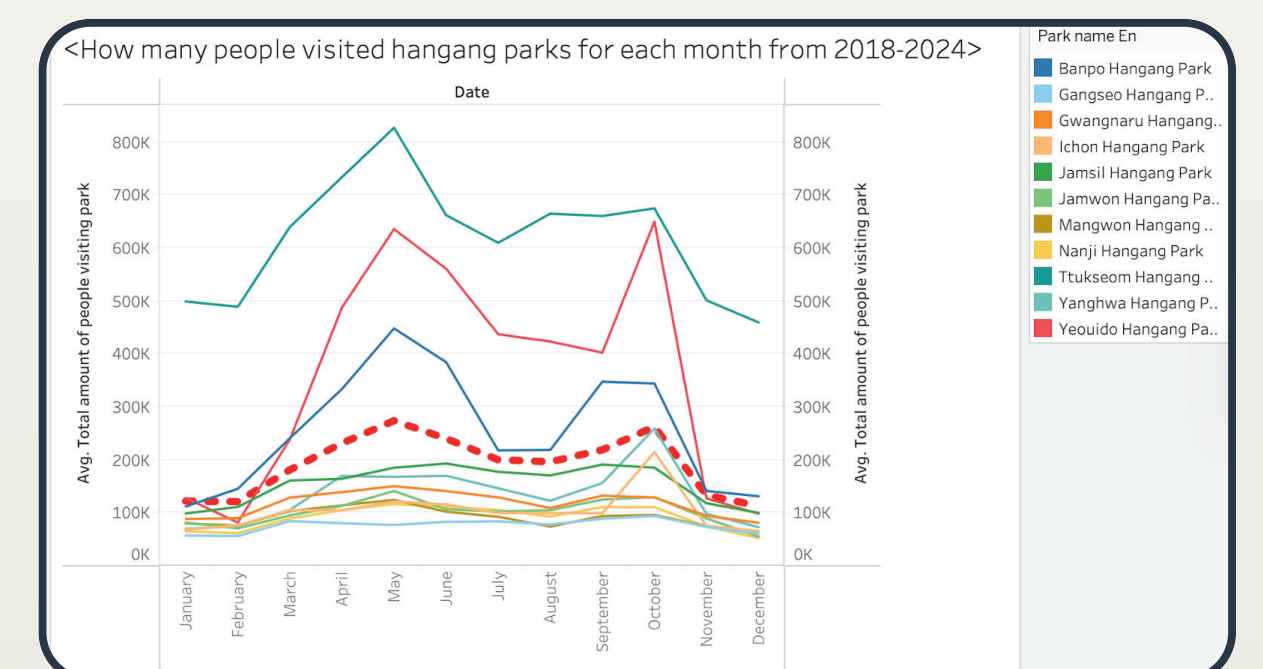
Ttukseom is a major outlier
Highest exercise facility users (5-10× other parks)
Home to diverse and large-scale sports facilities
→ Attracts younger, activity-oriented users

4. Population Size ≠ Park Usage

Weak correlation between resident population and park visitation ($R^2 \approx 0.09$)
Access, facilities, and park role matter more than district size

Implications

Hangang Parks serve multiple roles
Leisure & relaxation spaces
Activity hubs
Transportation corridors
Park-specific and seasonally adaptive planning is more effective than uniform management



Conclusion

Hangang Park visitation:
Peaks consistently in spring and fall
Declines in summer and winter
Varies across parks depending on facility types and functions
Urban planners should:
Recognize the differing roles of each park
Allocate resources based on seasonal demand and functional identity

Limitations

Reliance on secondary public datasets
No direct distinction between recreational visitors and commuters
Population measured annually vs. visitation monthly
Behavior motivations are not captured

Future Directions

Incorporate meteorological and event data
Compare leisure vs. commuting users explicitly
Use surveys or mobility tracking for behavior insights