Disneyland – Attraction Clustering

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Project Objective:

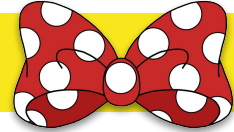How can a Disneyland visitor better understand where to spend their time?

Understanding the Problem

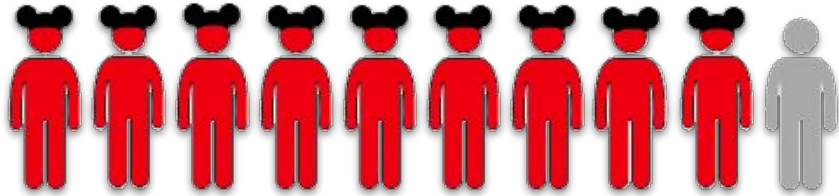The Disneyland Resort in California, at an estimated 510 acres.

Disneyland and California Adventure, spanning 85 and 75 acres respectively, are some of the most sought after tourist destinations in the world.

The Disneyland park alone averages around 50,000 visitors daily.

Target Audience

Disneyland visitors, more so first-timers

May extend to the Disneyland stakeholders as more people find what peaks their interest.

Data Acquisition

Sources

1. **Wikipedia**
   - For general attraction names and locations
2. **LaughingPlace**:
   - For attraction wait times, ratings, and other details
3. **Foursquare API**
   - For accurate location information.

Attractions & Sections

Findings

Plotting the number of attractions available in each section of the park reveals that Fantasyland towers over the other sections with 17 attractions available.

# of Attractions in Each Section
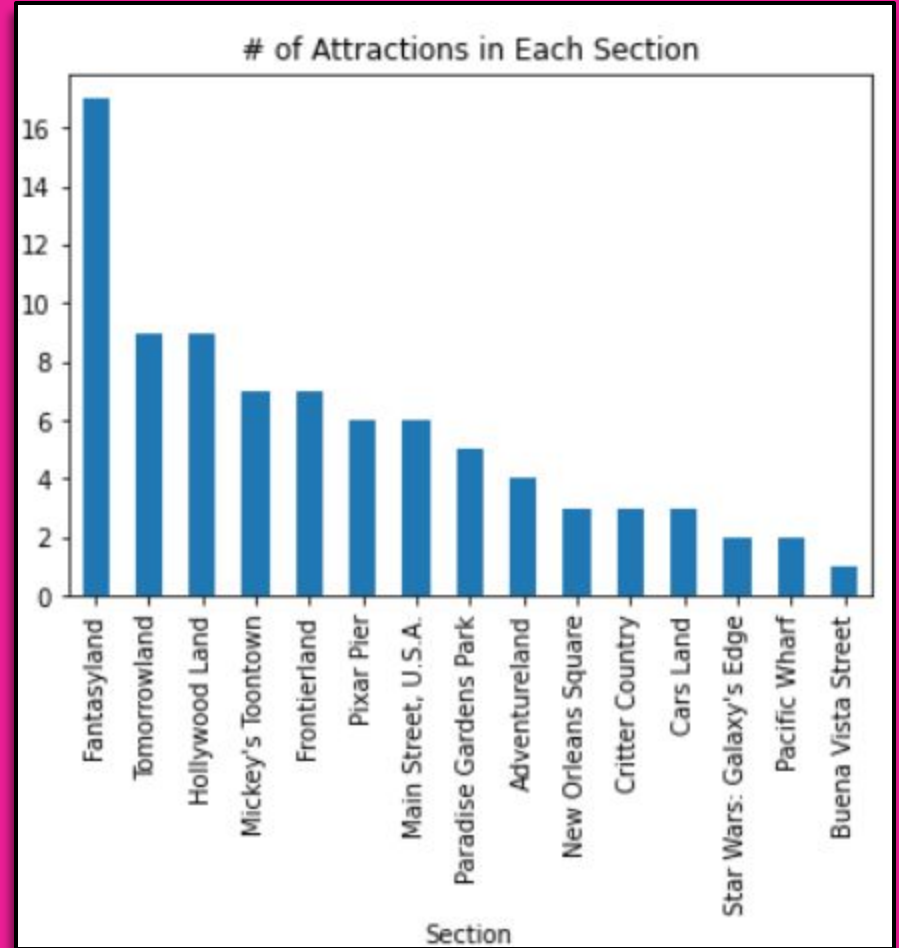
	Section	1st Most Common...	2nd Most Common...	3rd Most Common...
0	Adventureland	Thrill Ride (Non-Coaster)	Slow Moving Boat Ride	Walkthrough
1	Cars Land	Thrill Ride (Non-Coaster)	Walkthrough	Log Flume
2	Critter Country	Log Flume	Dark Ride	Walkthrough
3	Fantasyland	Dark Ride	Spinner	Slow Moving Boat Ride
4	Frontierland	Slow Moving Boat Ride	Rollercoaster	Walkthrough
5	Hollywood Land	Dark Ride	Drop Ride	Walkthrough
6	Main Street, U.S.A.	Train	Walkthrough	Log Flume
7	Mickey's Toontown	Walkthrough	Spinning Dark Ride	Rollercoaster
8	New Orleans Square	Slow Moving Boat Ride	Walkthrough	Log Flume
9	Paradise Gardens Park	Spinner	Dark Ride	Rollercoaster
10	Pixar Pier	Carousel	Rollercoaster	Interactive Dark Ride
11	Tomorrowland	Monorail	Slow Moving Boat Ride	Car

Attractions Types & Sections

Findings

Listed are the three most common attractions in each section of the parks. From this view it is apparent that California Disneyland Resort favors:
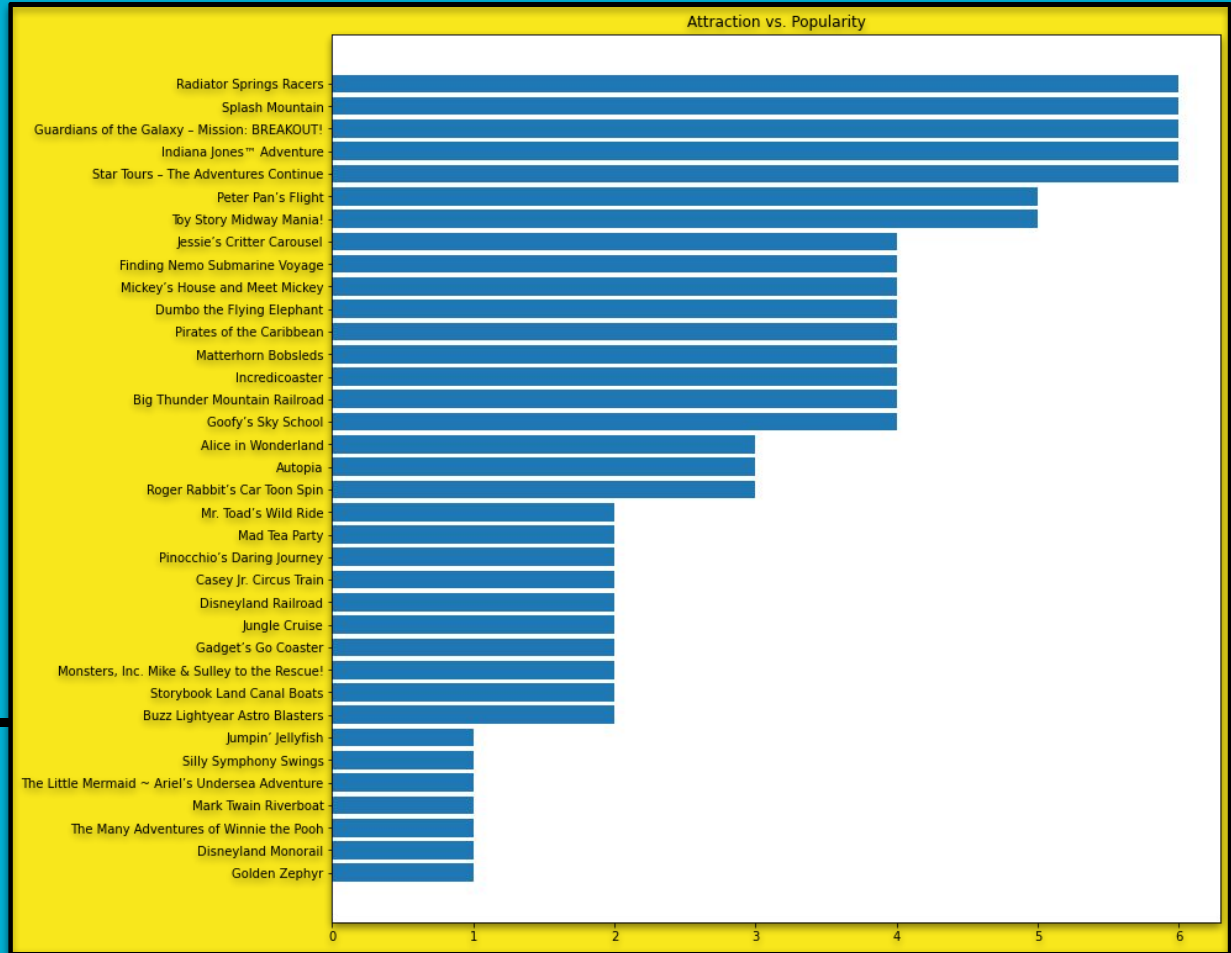
1. Thrill Rides(Non-Coaster)
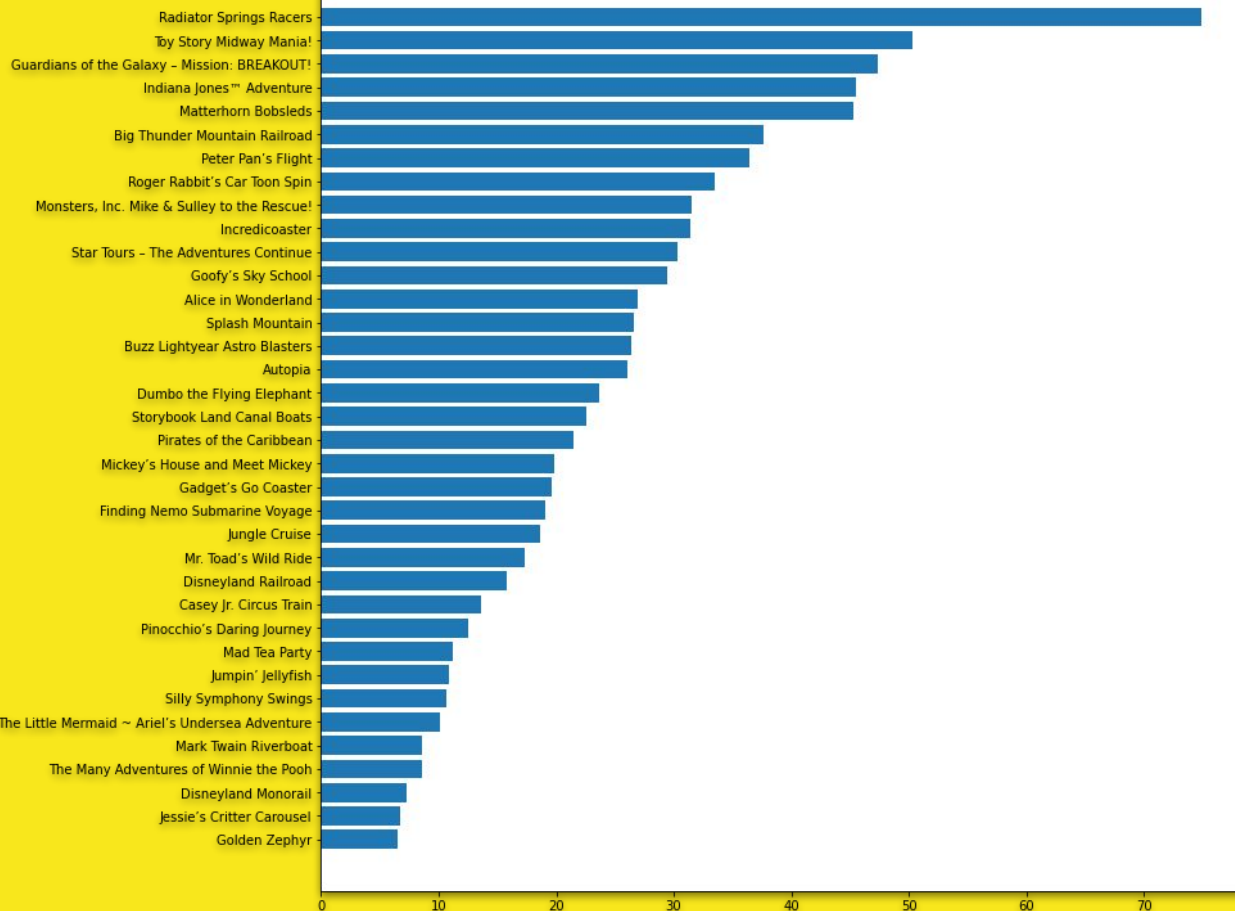2. Slow Moving Boat Rides
3. Dark Rides.

https://i.pinimg.com/originals/5a/9c/75/5a9c754f3a90ca3245bfa73f52d807e3.png

Popular Attractions

* Popularity of an attraction is found through the number of attendees that visit the attraction and the overall rating of the ride.

Attraction vs. Popularity

Attraction	Popularity
Radiator Springs Racers	6
Splash Mountain	6
Guardians of the Galaxy – Mission: BREAKOUT!	6
Indiana Jones™ Adventure	6
Star Tours – The Adventures Continue	6
Peter Pan's Flight	5
Toy Story Midway Mania!	5
Jessie's Critter Carousel	4
Finding Nemo Submarine Voyage	4
Mickey's House and Meet Mickey	4
Dumbo the Flying Elephant	4
Pirates of the Caribbean	4
Matterhorn Bobsleds	4
Incredicoaster	4
Big Thunder Mountain Railroad	4
Goofy's Sky School	4
Alice in Wonderland	3
Autopia	3
Roger Rabbit's Car Toon Spin	3
Mr. Toad's Wild Ride	2
Mad Tea Party	2
Pinocchio's Daring Journey	2
Casey Jr. Circus Train	2
Disneyland Railroad	2
Jungle Cruise	2
Gadget's Go Coaster	2
Monsters, Inc. Mike & Sulley to the Rescue!	2
Storybook Land Canal Boats	2
Buzz Lightyear Astro Blasters	2
Jumpin' Jellyfish	1
Silly Symphony Swings	1
The Little Mermaid ~ Ariel's Undersea Adventure	1
Mark Twain Riverboat	1
The Many Adventures of Winnie the Pooh	1
Disneyland Monorail	1
Golden Zephyr	1

Attraction vs. Wait Time

Attraction	Wait Time
Radiator Springs Racers	75
Toy Story Midway Mania!	50
Guardians of the Galaxy – Mission: BREAKOUT!	47
Indiana Jones™ Adventure	45
Matterhorn Bobsleds	45
Big Thunder Mountain Railroad	37
Peter Pan's Flight	36
Roger Rabbit's Car Toon Spin	33
Monsters, Inc. Mike & Sulley to the Rescue!	31
Incredicoaster	31
Star Tours – The Adventures Continue	30
Goofy's Sky School	29
Alice in Wonderland	27
Splash Mountain	27
Buzz Lightyear Astro Blasters	26
Autopia	26
Dumbo the Flying Elephant	24
Storybook Land Canal Boats	23
Pirates of the Caribbean	22
Mickey's House and Meet Mickey	20
Gadget's Go Coaster	20
Finding Nemo Submarine Voyage	19
Jungle Cruise	19
Mr. Toad's Wild Ride	17
Disneyland Railroad	16
Casey Jr. Circus Train	14
Pinocchio's Daring Journey	12
Mad Tea Party	11
Jumpin' Jellyfish	11
Silly Symphony Swings	11
The Little Mermaid ~ Ariel's Undersea Adventure	10
Mark Twain Riverboat	9
The Many Adventures of Winnie the Pooh	9
Disneyland Monorail	7
Jessie's Critter Carousel	7
Golden Zephyr	6

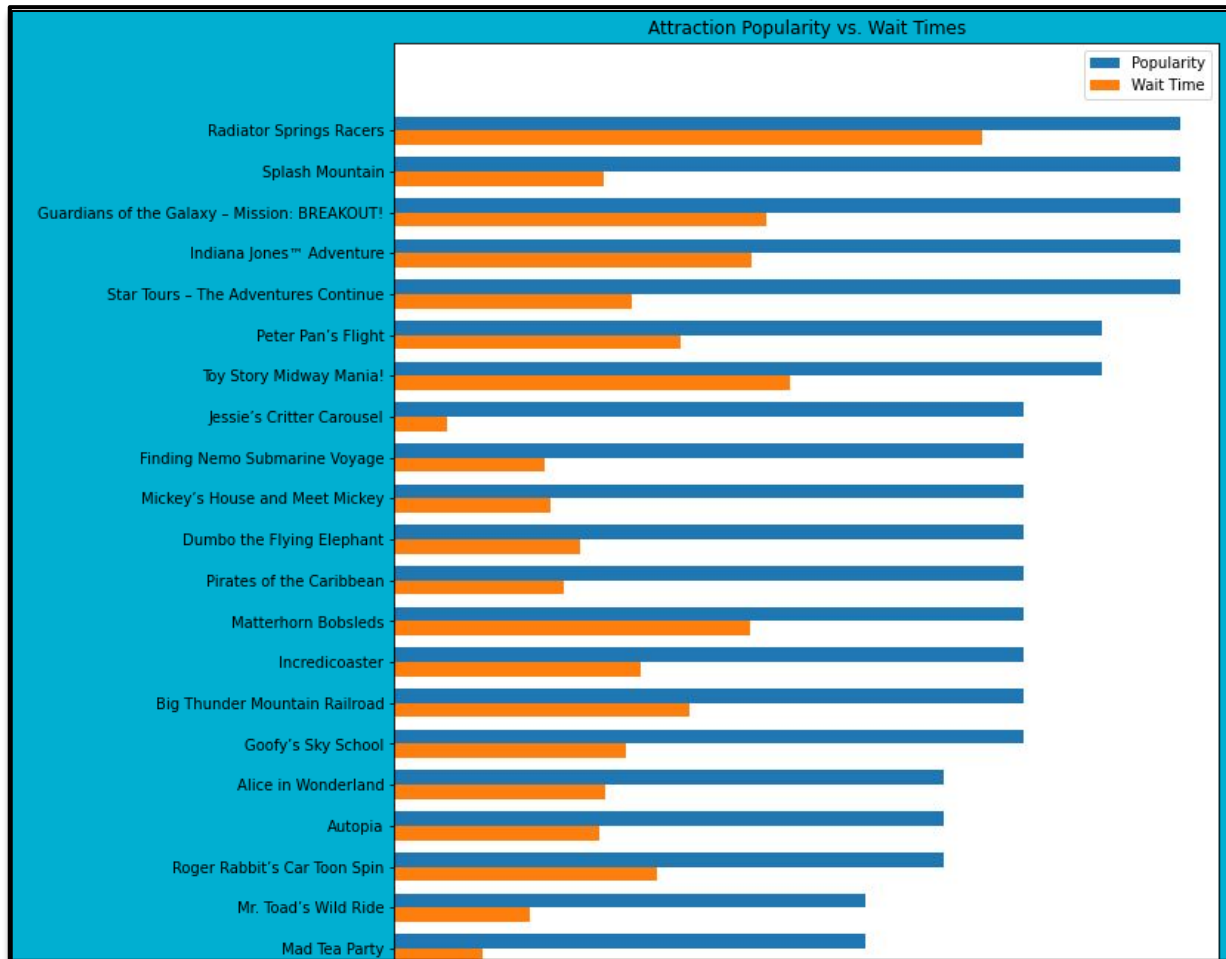## Attractions & Wait Times

*Average wait times listed

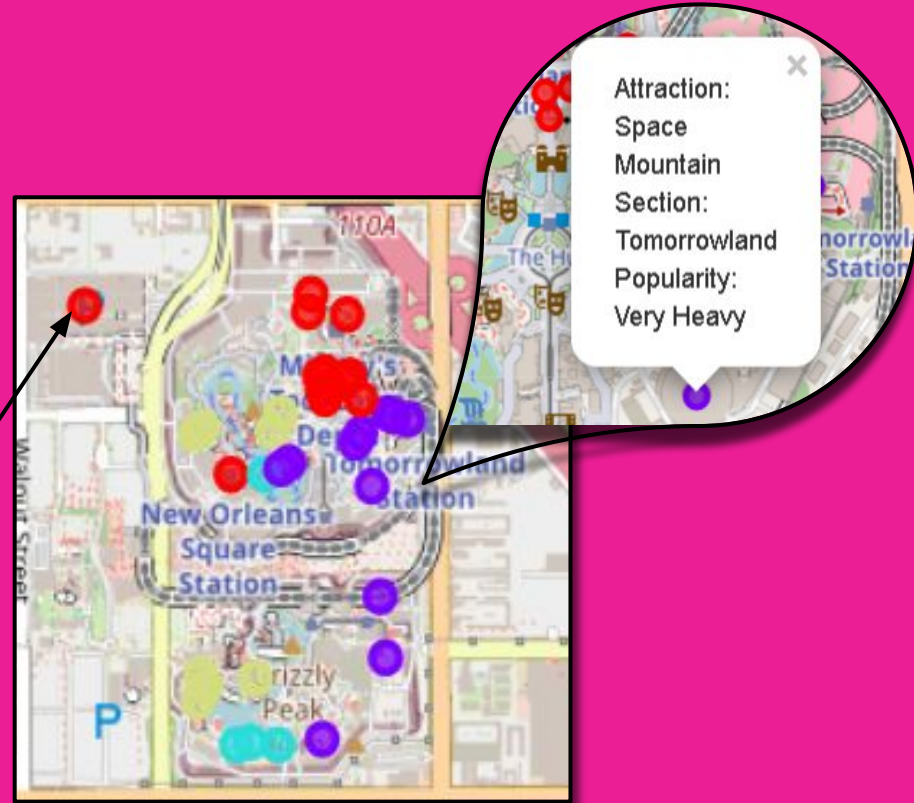# Attraction Popularity vs Wait Times

Findings

Features do not share a linear relationship.

A ride such as "Monsters, Inc. Mike & Sulley to the Rescue!" finds it's visitors in line longer than its relative popularity would have them believe
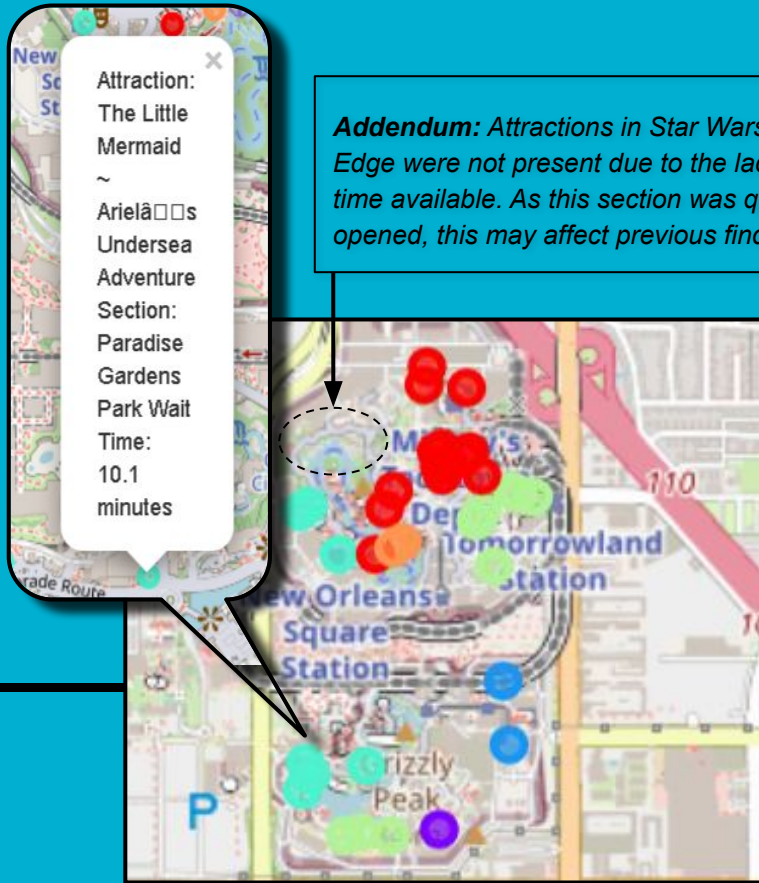

Attraction Popularity vs. Wait Times

Attraction Popularity Clusters

Addendum: *It seems that the "Alice in Wonderland" ride returns the wrong coordinates when sent through the Foursquare API, as the final clustering places it in the parking lot.*

Attraction: Space Mountain Section: Tomorrowland Popularity: Very Heavy

Attraction:
The Little
Mermaid
~
Ariel□□s
Undersea
Adventure
Section:
Paradise
Gardens
Park Wait
Time:
10.1
minutes

Addendum: Attractions in Star Wars: Galaxy's Edge were not present due to the lack of a wait time available. As this section was quite recently opened, this may affect previous findings.

Attraction Wait Time Clusters

Conclusion

Popular Sections
- Tomorrowland and Fantasyland host highly popular attractions and are likely to be the higher traffic areas in the two parks.

Ride Types
- The three most common types of rides at the park are Thrill Rides(Non-Coaster), Slow Moving Boat Rides, and Dark Rides.

Popular Attractions
- "Radiator Springs Racers" is the most popular attraction and holds the longest average wait time

Popularity vs. Wait
- Attraction popularity does not directly correlate to wait time.

http://www.disneyclips.com/images/pluto4.html

Future Directions

- 'Disneyland Go' website and mobile app may aid in the problem of losing attractions that don't have wait times or information available.

- Including prices and destinations such as eateries and shops would vastly increase the usefulness of this study as the attractions are only a fragment of what visitors aim to see.

- Adding other Disney theme park locations such as Disney World, Disney Paris, and Disney Tokyo could allow for visitors to find a location that features more of what they favor.

- A content-based recommender system could be incorporated into users with a Disney+ account, as they could be offered a tailor-made experience based on their favorite movies, shows, characters, etc.