

# Activation of Public Space

A model for evaluating levels and  
patterns of user behavior

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# Contributors...

- **Lori Goerlich**, intern from University of Iowa in 2004, the lone observer and compiler of the data. She is welcomed back anytime.
- **David Cubberly**, photography.
- **Alison Hastings**, followup observer and compiler.
- **Brooke Fotheringham**, followup observer and compiler.
- **Kevin Moran**, City of Des Moines Park Planner.

# Activation of Public Space

This presentation introduces a **post-activation evaluation methodology** that measures levels and patterns of behavior in public space.

The methodology first defines a **baseline** of incidental users that are probably available to visit a particular public space.

Actual behavior in the public space is then observed, quantified and compared to the baseline. If actual use exceeds the baseline, then the space is considered activated.

# A question...

- Which of these activates gathering behavior in public spaces?
  - A. Design style or expression?
  - B. Programmed events?
  - C. Location?
  - D. Available users?



# This Baseline Model...

- Proposes that it is the number of available users that activates a public space.
- Adds to the body of knowledge about human behavior in the public realm.
- Can be deployed as a design tool to optimize the accessible sizes of future public spaces.

# A Dilemma...?

Design aesthetics repel users...  
(Project for Public Spaces)

vs.

Comfortable design is dull...  
(Big 'D' Designers)

# Reality...

- There appears to be little if any scientific or statistical basis for either side to back up their claims.
- In fact, statistically, it would be unlikely that one could discover an association or correlation between design (provocative or comfortable) and use.
- The reason is that control spaces and general user knowledge of design styles and designer intent are non-existent.

# Myths about public space use...

1. Low level of use means the space is failing. Or conversely, if a space **feels** active, then it is useful. (Use is less about numbers, and more about the mobility, maneuverability and flow of interaction; what Whyte called effective capacity. How many potential users are available to visit a public space?)
2. Explicit, exclusive design, unreserved in expression, attracts users because it enlightens and edifies. Or conversely, explicit design repels users because it challenges users. (**Most users will not be aware of designer intent, or be trained in design theory sufficiently to offer valid critique. Users will form opinions, however.**)
3. Comfort design attracts users because it communicates elements of safety and control. (This is probably true for some groups and some localities, but we can't generalize. One person's civility is another's infringement of free speech.)

# Previous research in behavior observation in public...

- **Satisfaction sites:** some seek happiness and places that satisfy generally; provide design elements that evoke satisfaction through arousal or relaxation. Shelly (1969)
- **Behavior setting survey:** Roger Barker (1968)
- **Personality-culture research:** understanding personality types can predict behavior. Only 35 to 40 percent of a population demonstrates typical personalities.
- **Intercept surveys:** qualitative information is limited to how good or bad, how strong or weak, how active or inactive something is. Results do not relate to how people behave.
- **Pattern analyses:** Alexander's programming sequence (Pattern Language) that matches behavior to design feature (1968); Chapin and Logan (1969) activity patterns.
- **Crowding theory:** crowd behavior demonstrates an optimum density (60-70 percent of capacity) a result of territoriality?
- **Operant learning:** social and physical-environmental elements reinforce certain behaviors (Whyte, 1980)
- **Social modeling:** people learn appropriate behavior by watching others. Social forces outweigh physical stimuli of design in the influence of behavior. Includes gender preferences studies.

# William H. Whyte...

- Concluded that there is no link between aesthetics and use.
- Activators attract people.
- Crowds attract people.
- Places to sit is the key: 1 Linear Foot per 30 square feet of plaza.
- Incidental activation will rarely reach carrying capacity due to social boundaries.



# Roger Barker...

- Pioneered the observational method of quantifying ordinary daily behavior.
- Physical setting and behavior are bound together.
- Design should focus on ordinary daily behavior and for great numbers of people, rather than distinct individuals.
- Observations measure what people do with design features, not what they say they do.



# Design and behavior...

- Links are difficult to prove.
- Behavior is measurable and predictable.
- Satisfaction seeking behavior can be evoked by satisfying design elements.
- Observing incidental behavior over time will reveal aspects of usefulness heretofore unrecorded.
- Must determine the availability of probable users. The true measure of successful use in public space is the number of incidental users one can expect to arrive on site, irrespective of design expression or events.

# The idea...

- The idea is this: People will go to a public space anyway. The inducement is simply that the public space needs to be legible as public space. And, the most accurate predictor of public space use levels is a calculation of the number of users that might be available to visit the space. The probability that some users are available is proportional to the proximity of the total population pool.

# The experiment...

- Devise a formula that quantifies the anticipated number of users that are available to visit the public space (baseline).
- Conduct a remote observation survey of a public space to measure various aspects of behavior and use.
- Compare the baseline to actual use.

# I. Baseline...

- The baseline is derived from local factors including population pool, city open space ratios, and accessible area of the subject public space.
- The calculation is defined such that the **anticipated** number of potential users for any given public space **could** be available to access the space at a reasonable rate and for a reasonable length of time.

# Calculating the Baseline...

The calculation of proportional number of local users available to visit the public spaces of San Francisco

- ➡ Determine the annual number of potential visitors (includes residents, tourists, regional visitors, employees).
- ➡ Determine the acres of parks and open space per 1,000 population.
- ➡ Convert the acres/1,000 ratio to square feet per person.
- ➡ Determine the accessible area of any given public space.
- ➡ Divide accessible area by the average square feet per person.



# Park Ratios of cities with populations similar to San Francisco

U.S. City	Acres of Park	Population	Acres/1000 population	Square Feet/person
San Jose, CA	3,848	895,000	4.3	187
Detroit	5,896	951,000	6.2	270
San Francisco	3,317	751,682	4.4	192
Boston	5,478	589,000	9.3	405
Columbus	8,461	711,000	11.9	518
Indianapolis	11,880	792,000	15.0	653
Milwaukee	15,134	940,000	16.1	701
Honolulu	17,520	876,000	20.0	871
Louisville	14,227	694,000	20.5	893
Charlotte	16,472	695,000	23.7	1,032
Portland, OR	12,961	529,000	24.5	1,067
Jacksonville	49,754	736,000	67.6	2,945



# The User Baseline for Union Square

Population Type	Acres of Park	Daily Population	Acres/1000 Population	Square Feet/Person	Accessible Area in Union Square (square feet)	User Baseline
Residents of S.F.	3,317	751,682	4.4	192	72,650	378
Tourists/Visitors	7,594	41,425	183.3	7,985	72,650	9
Employees	7,594	557,049	13.6	594	72,650	122
TOTALS:	7,594	1,350,146	5.6	244	72,650	298

This baseline defines the anticipated available users that could be in Union Square at any given time during a typical day. Less than 298 users would indicate under-utilization. At or above 298 users indicates activation.



# Baseline Comparison

Anticipated users for various sizes of public spaces in San Francisco.

Accessible Area (SF)	SF/person	Anticipated Users
1000	244	4 - 5
2000	244	9
3000	244	13
5000	244	21
8000	244	33
13000	244	54
21000	244	86
34000	244	140
55000	244	226
72650	244	298



## The User Baseline for Bryant Park in Manhattan, New York City

Population Type	Acres of Park	Daily Population	Acres/1000 Population	Square Feet/Person	Accessible Area in Bryant Park (square feet)	User Baseline
Residents of Manhattan	2,686	1,500,000	1.8	78	296,208	3,798
Visitors (15 million annually)	2,686	41,100	65.4	2,847	296,208	104
Employees	2,686	2,000,000	1.3	58	296,208	5,107
TOTALS:	2,686	3,541,100	.76	33	296,208	8,976

This baseline defines the anticipated available users that could be in Bryant Park at any given time during a typical day. Less than 8,976 users would indicate under-utilization. At or above 8,976 users indicates activation. Daily estimate of users in Bryant Park is 10,000, therefore, Bryant Park is activated under the baseline model.



# The User Baseline for Grays Lake Park in Des Moines

Population Type	Acres of Park	Daily Population	Acres/1 000 Population	Square Feet/Person	Accessible Area in Grays Lake (square feet)	User Baseline
Residents of Des Moines	3,000	202,477	14.8	646	1,306,800	2,023
Visitors (1,200,000 annually)	3,000	3,288	913	39,745	1,306,800	33
Employees	3,000	292,700	10	447	1,306,800	2,924
TOTALS:	3,000	498,465	6	262	1,306,800	4,988

This baseline defines the anticipated available users that could be in Grays Lake Park at any given time during a typical day. Less than 4,988 users would indicate under-utilization. At or above 4,988 users indicates activation. Daily estimate of users in Grays Lake Park is 2,740. Therefore, Grays Lake Park is not yet activated under the baseline model. (This is probably because Des Moines has an abundance of parks and open space, and Grays Lake Park is a very large park.)



# The User Baseline for Nollen Plaza in Des Moines

Population Type	Acres of Park	Daily Population	Acres/1000 Population	Square Feet/Person	Accessible Area in Nollen Plaza (square feet)	User Baseline
Residents of Des Moines	3,000	202,477	14.8	646	58,000	90
Visitors (1,200,000 annually)	3,000	3,288	913	39,745	58,000	1.46
Employees	3,000	292,700	10	447	58,000	130
TOTALS:	3,000	498,465	6	262	58,000	221

This baseline defines the anticipated available users that could be in Nollen Square at any given time during a typical day. Less than 221 users would indicate under-utilization. At or above 221 users indicates activation. Daily estimate of users in Nollen Square is 50. Therefore, Nollen Square is not yet activated under the baseline model.

## 2. Observing behavior...

- Must minimize subjective influences in data collection.
- Cumulative data over many time periods will reveal patterns of use that are impossible to see in a few observations.
- Remote observation survey must take place with minimum preconceived behavioral expectations.

# Incidental Use...

- The spontaneous gathering behavior observed during uneventful time periods.
- Observation days are randomly selected and then screened for calendared events.
- Incidental use measures people walking, standing and sitting.



# Public Space...

- The baseline model defines 'public space' as the various types of publicly owned and accessible commons typically found in urban settings. The sizes of public spaces applicable to baseline modeling may vary from several hundred square feet to three acres in area.



# Quantifiable Data...

- Use and behavior data, collected over several months, may reveal more about the successful utilization of public space than event counts, holding capacity or intuition.
- This baseline model observes, counts, extrapolates and maps the behavioral data.

# Behavior Imprints...

- A portion of the observed data is mapped to reveal the behavior imprint of the public space to assess how much of the accessible area is actually used and to reveal high-density use or under-utilized subareas.

# Initial Inquiries:

- How many users visit the public space each day and during the year?
- How do use levels and patterns change over a six-month period?
- What days of the week and time of day were most and least popular?
- What level of use is considered the minimum level of successful use?
- What is the rate of turnover or flow of use (mobility index)?
- What was the duration of stay?
- Are there pathway and seating preferences?

# Design History of Union Square...

- The 2.6 acre site was deeded to the City of San Francisco by John Geary in 1850.
- Remained vacant lot for 30 years.
- First park design in 1880's.
- Second park design included adding the Dewey Memorial in 1908.
- Site was redesigned as a parking structure with roof garden in 1941.
- Roof garden was redesigned through design competition in 1998 - Square reopened in 2002.



# Union Square Design Plan

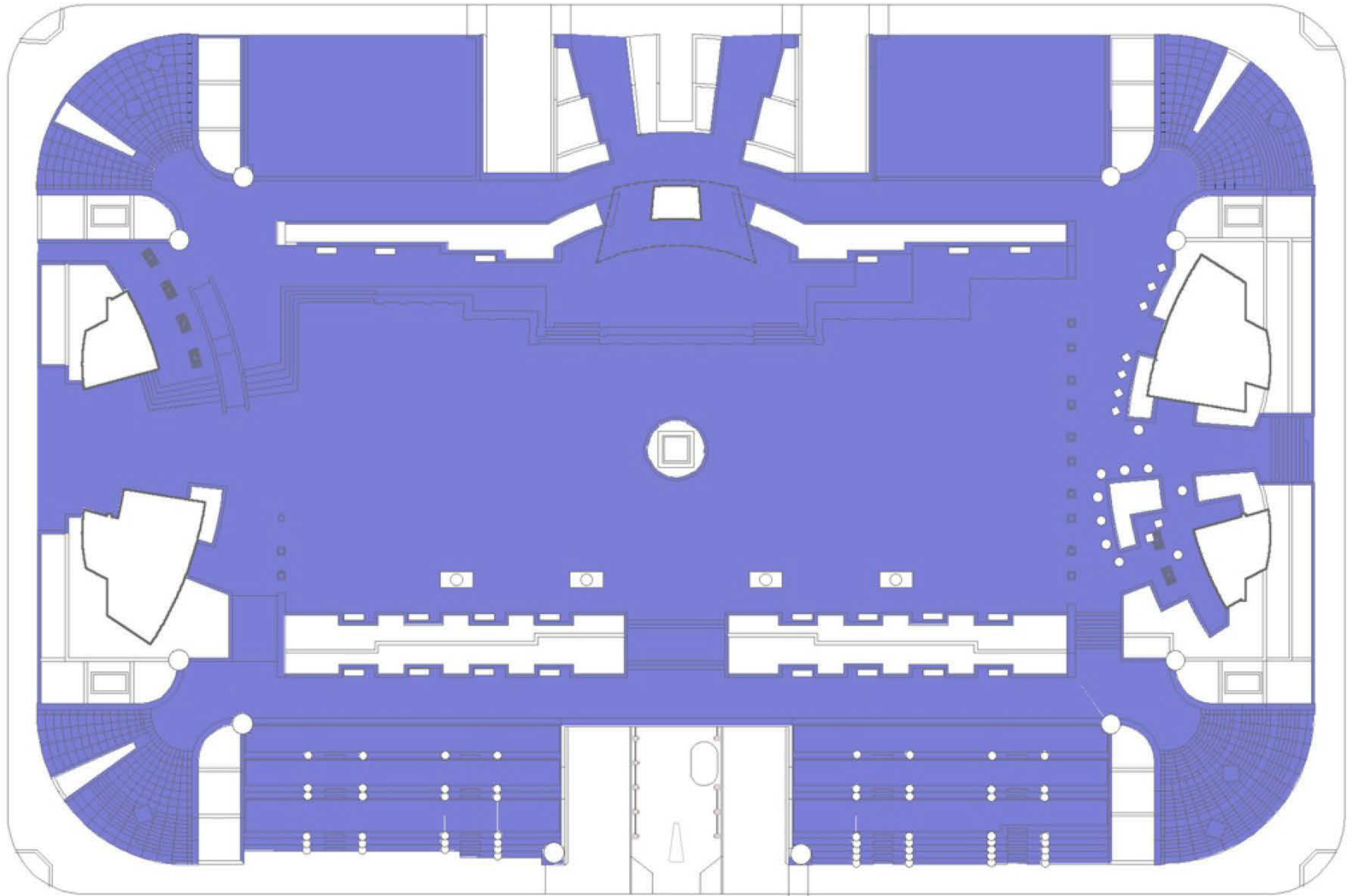


UNION SQUARE IMPROVEMENT PROJECT

SAN FRANCISCO, CALIFORNIA



# Accessible area...



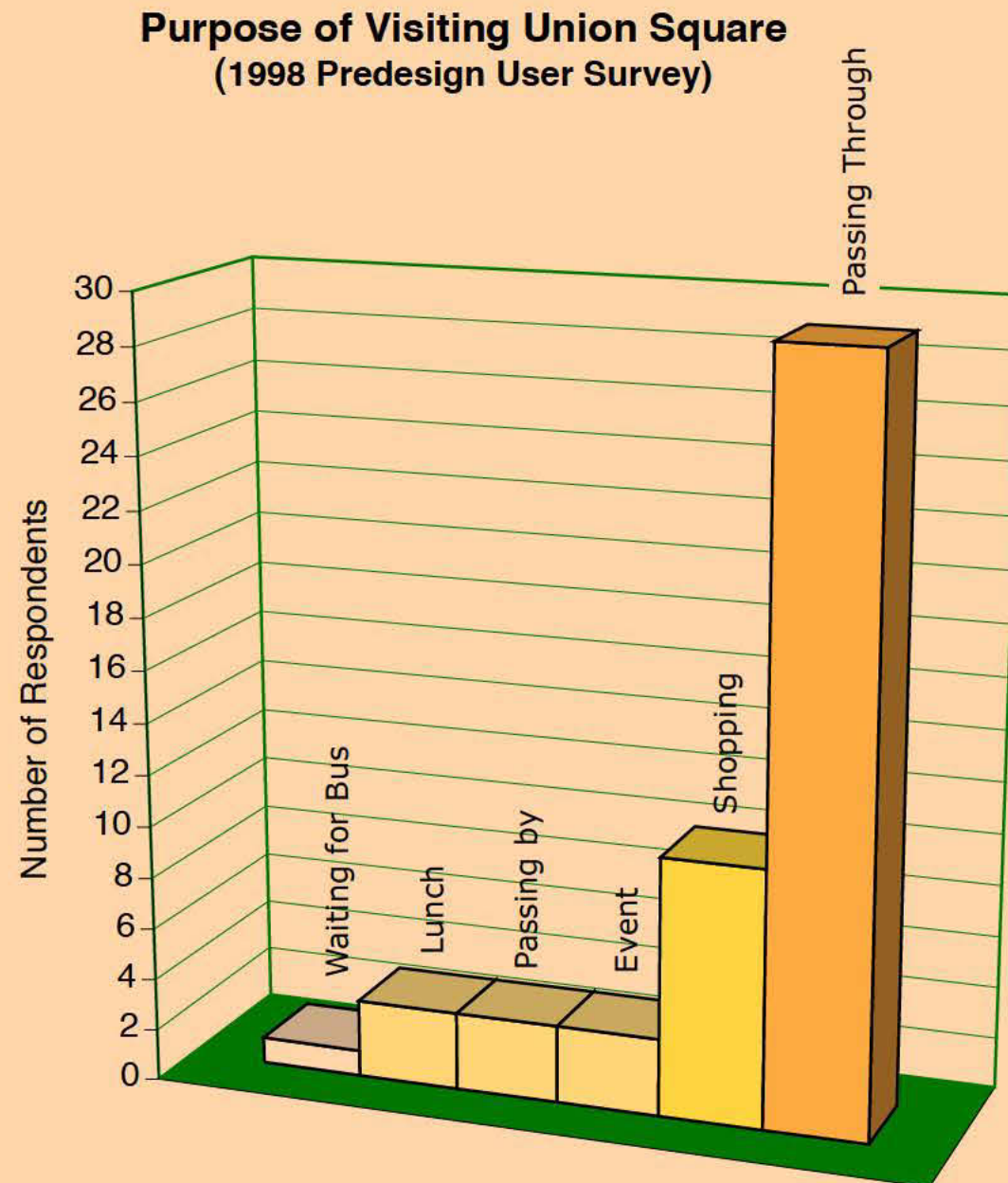
# About the Users of Union Square...

- Union Square attracts a balance of local residents, tourists, employees and regional visitors.
- 11.2 million (74%) of the 15.12 million annual visitors who came to San Francisco visited the Union Square shopping district (2004 statistics).
- 38% of shoppers live in San Francisco; 33% (3,696,000) of shoppers come from beyond the Bay Area.



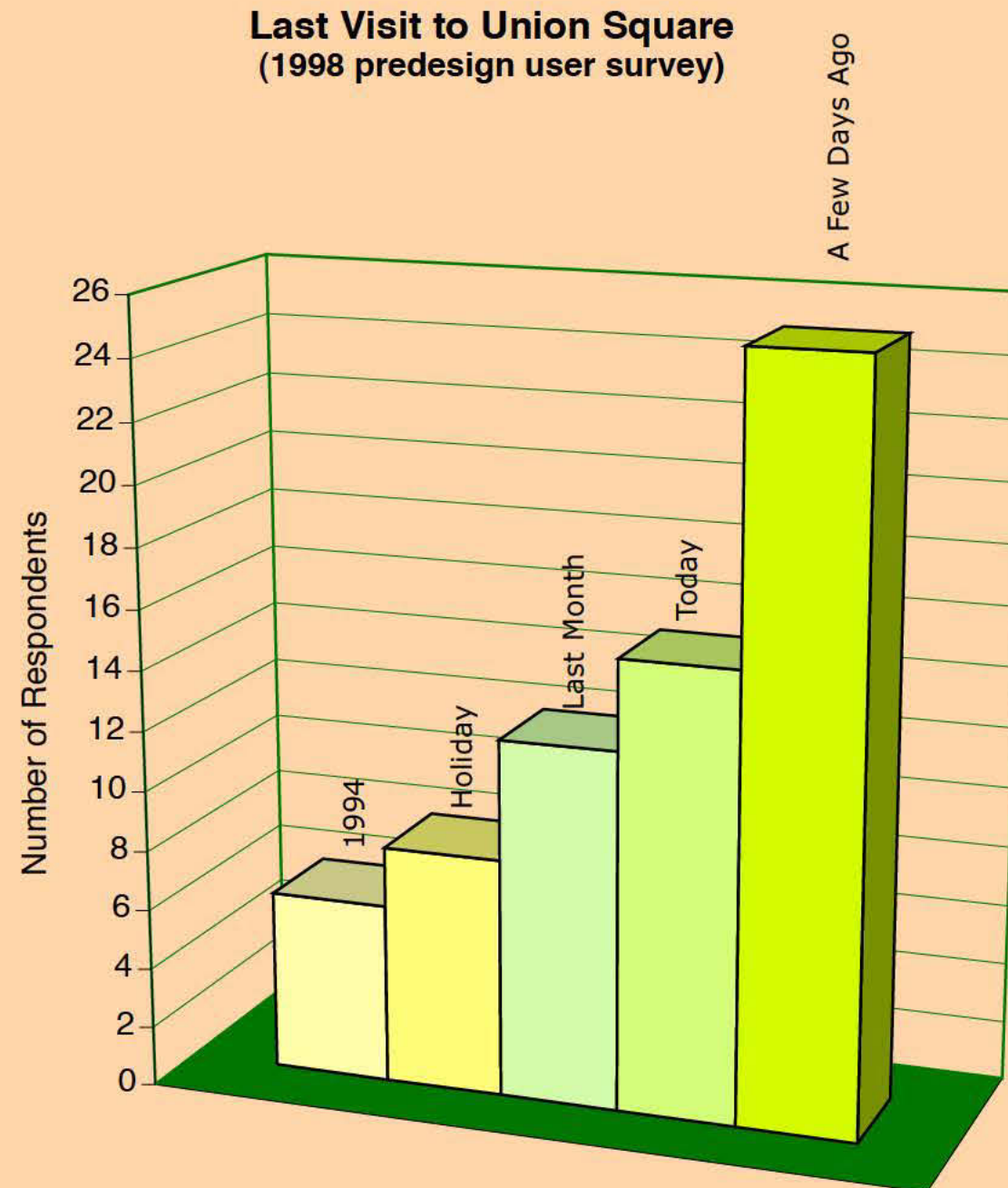
# Predesign User Survey

- Purpose of visit to Union Square



# Predesign User Survey

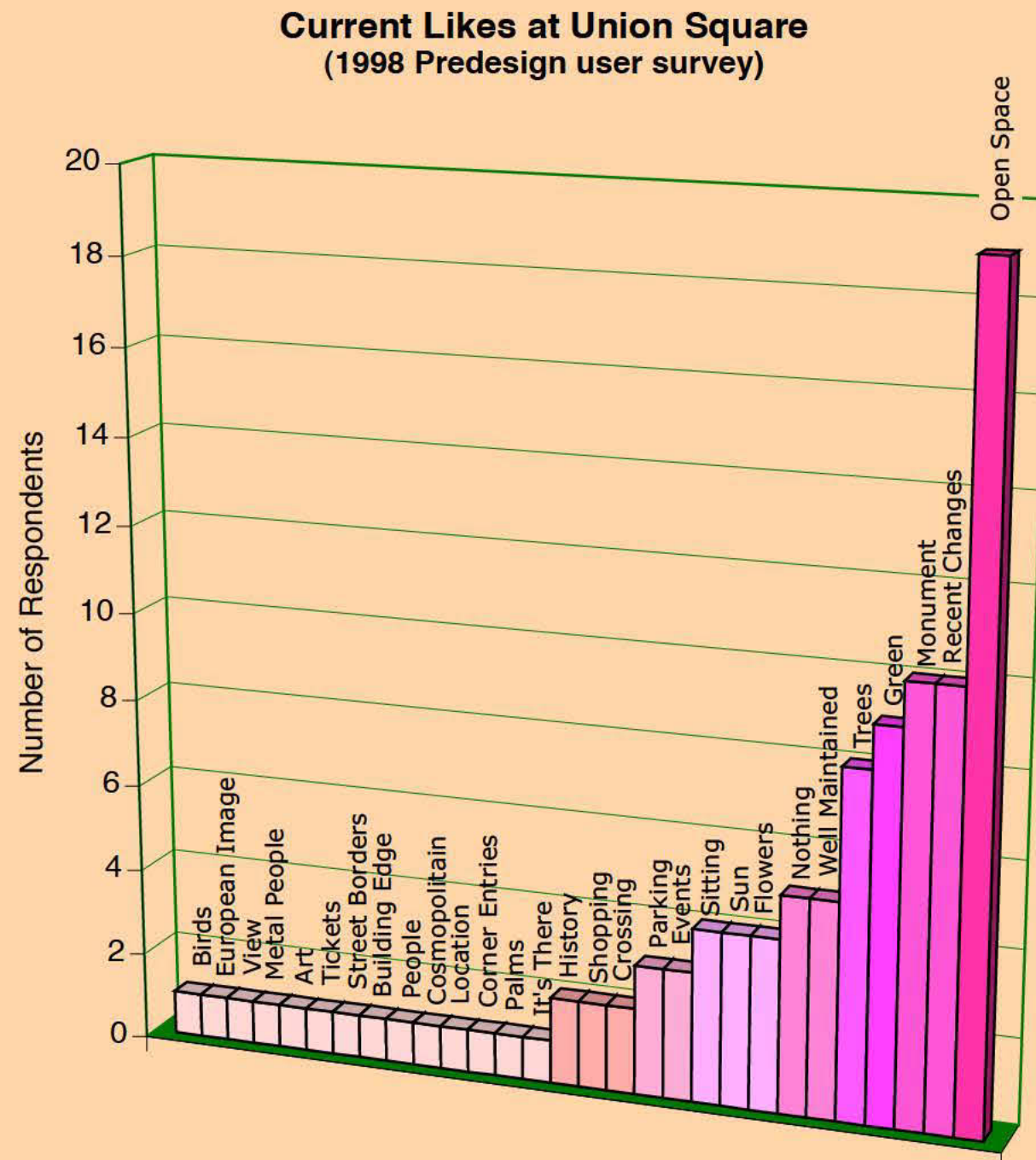
- Current Rate of Visitation





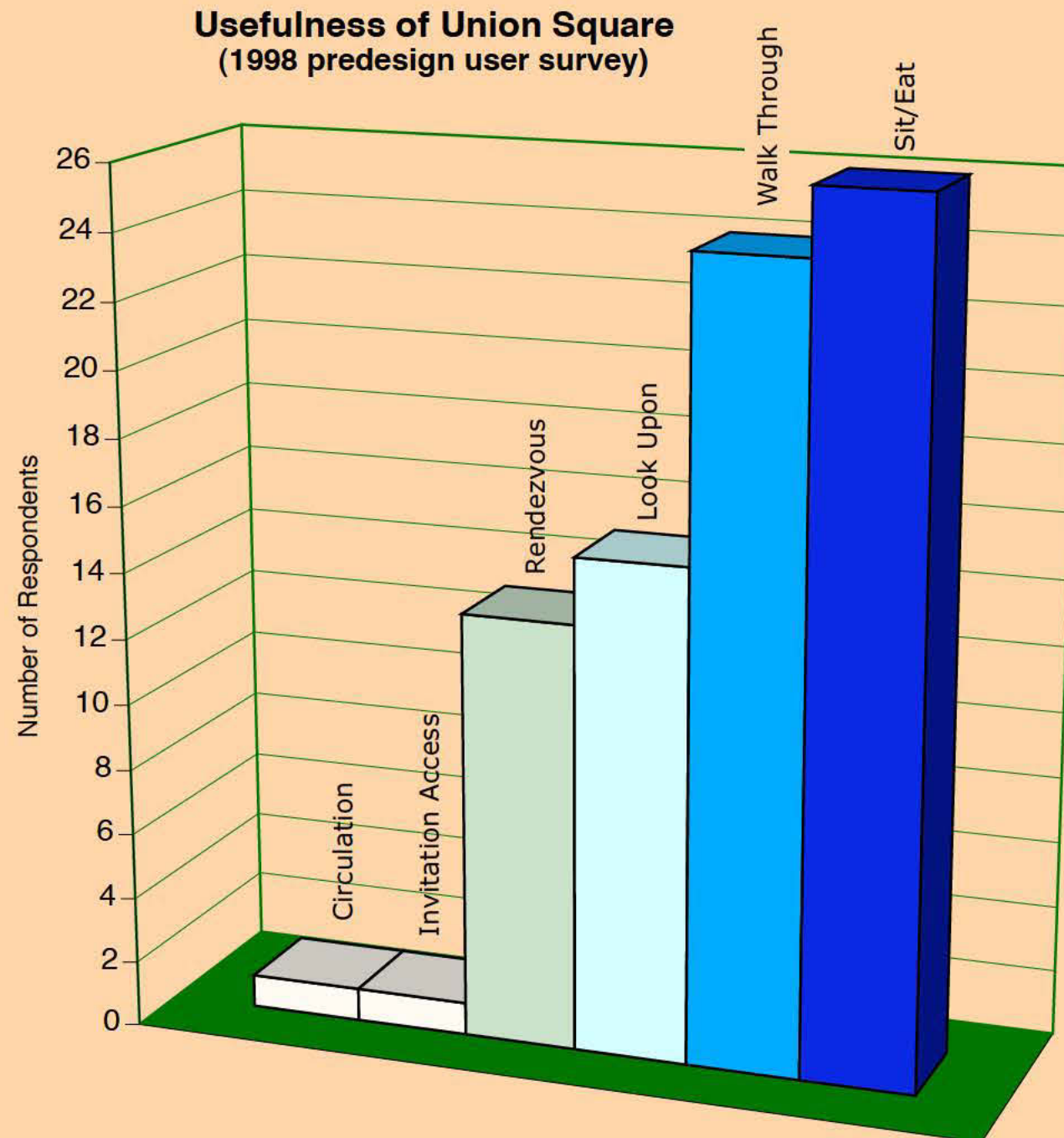
# Predesign User Survey

- Current positive aspects



# Predesign User Survey

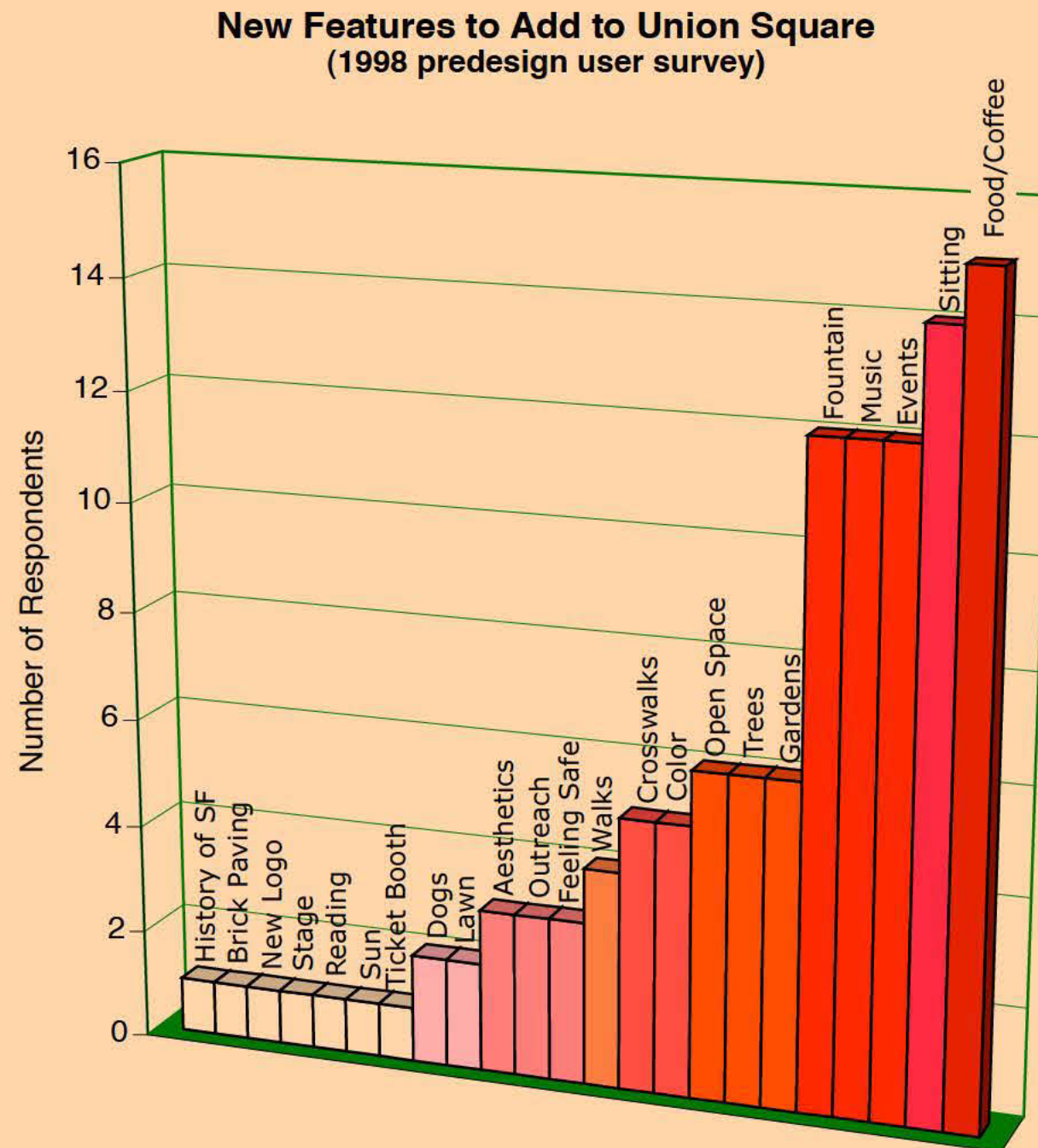
- Usefulness





# Predesign User Survey

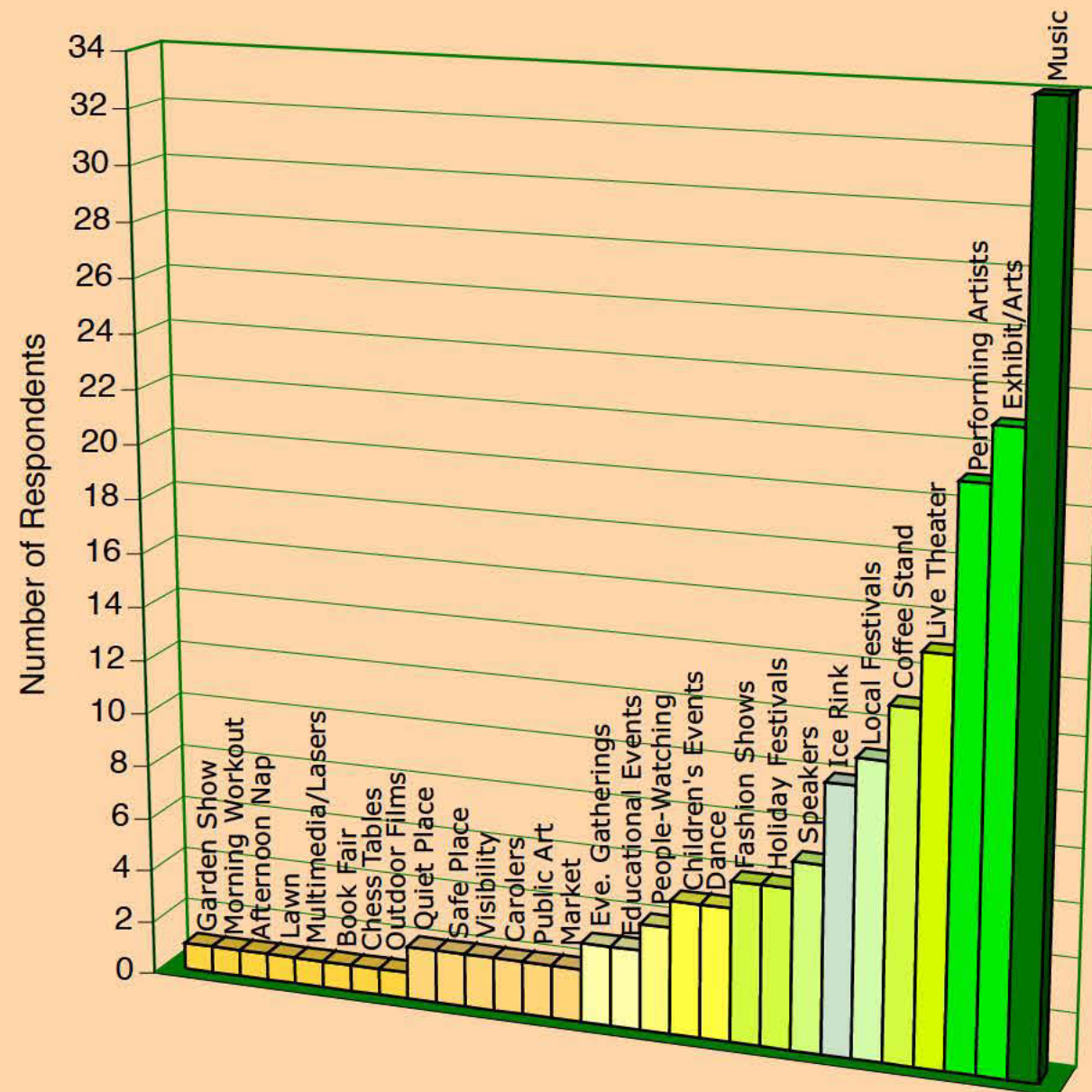
- New Features



# Predesign User Survey

- Future Priority Events

Desired Future Events at Union Square  
(1998 predesign user survey)





# Definitions...

- **Observed users** – total counted users (48,663)
- **Observation day** – a total of 26 days randomly selected for recording static counts.
- **Static Count** – number of observed users recorded at each 30-minute time interval.
- **Extrapolated Count** – number of estimated users for the 13-hour observation day, based on static counts.
- **Dynamic Count** – number of total estimated users each day based on duration of stay and turnover rates of extrapolated count.
- **Time Interval** – 30 minutes between static counts; nine static counts on each observation day.
- **Duration of stay** – average minutes sitters and walkers remained in the Square.



# Data Collection...

- 26 observation days, randomly selected, between February and July (5 days each in February and March, 4 days each in April, May, June, July).
- 9 static counts at 30-minute intervals on each observation day: 10-11 a.m., Noon-1 p.m., and 3-4 p.m.; a total of 234 static counts.
- Sitters and walkers were recorded.
- 10% of the static counts recorded where and for how long users were sitting.
- Temperature and cloud cover were recorded for each observation day.
- Shadow patterns from on-site and off-site structures were noted.
- 16% of the static counts was mapped in plan view to create a social imprint of use.
- The accessible area of Union Square was calculated at 72,650 square feet or 65.2% of the total site area of 111,447 square feet or 2.56 acres.

# Analyses...

- Nine static counts were recorded on each observation day. A total of 48,663 onsite users were counted. The same individual observed and recorded all static counts.
- Two minimum counts were assumed at 9 a.m. and 10 p.m.
- Sixteen extrapolated estimates completed the data for the 13-hour period on each observation day.
- Data was sorted into two groups: walkers and sitters.
- Turnover rates for walkers and sitters were calculated.
- Duration of stay was sorted according to 8 types of available seating.
- Dynamic counts were then calculated by multiplying extrapolated counts for walkers and sitters by the respective turnover rate.
- Static counts were sorted according to weather conditions.
- 7,300 (15%) of the static counts were mapped to assess use patterns and distribution.

# Exclusions...

- Activity on the sidewalk immediately adjacent to the Square was not counted.
- Gender use was not analyzed, although the data is available.
- Age, ethnic and visitor type data was not collected.
- Counts at special events were not recorded.
- Counts before 9 a.m. and after 10 p.m. were not recorded.
- Privately owned but publicly accessible spaces were not included in the baseline calculation.



# Average Temperature Ranges

(in degrees F)

	10 a.m. - 11 a.m.	Noon - 1 p.m.	3 p.m. - 4 p.m.
February (5 days)	55	56.7	59.6
March (5 days)	58.4	60.4	63.3
April (4 days)	58.3	62.8	65.8
May (4 days)	60.7	62.7	63.3
June (4 days)	64.5	66.8	68.8
July (4 days)	66.7	70.5	72.1

# Use & Weather Comparison...

	Cloudy (27%)	Sunny (73%)	TOTALS
February	441	5552	5993
March	2009	5271	7280
April	1259	6707	7966
May	1684	6393	8077
June	496	9098	9594
July	3024	6729	9753
TOTALS	8913 (18.3%)	39750 (81.7%)	48663



# Hourly Static Counts

Day of Week	10 a.m. to 11 a.m.	Noon to 1 p.m.	3 p.m. to 4 p.m.	Totals
Monday	273	641	602	1516
Tuesday	262	662	536	1460
Wednesday	347	662	611	1620
Thursday	448	940	784	2172
Friday	410	833	592	1835
Saturday	566	921	1282	2769
Sunday	683	760	1210	2653
TOTALS	2989	5419	5617	

Hourly average static counts compared to day of week. The noon hour was the most popular time during the week; the afternoon was most popular time on the weekends.



# Daily & Monthly Static Counts

	February	March	April	May	June	July	Daily Average
Monday	1215	859	1590	1409		2189	1452
Tuesday	204	1917			2104		1408
Wednesday		774	1670	1788	2086		1580
Thursday	1319				2705	2281	2102
Friday	847	1224	2056	1904		2806	1767
Saturday	2408		2650		2699		2586
Sunday		2506		2976		2477	2653
TOTALS	5993	7280	7966	8077	9594	9753	
Daily Ave. per month	1199	1456	1992	2019	2399	2438	
% Increase each month		+21%	+66%	+68%	+100%	+104%	



# Static Counts of Sitters & Walkers

	Sitters	Walkers	Total
February	3414	2579	5993
March	4930	2350	7280
April	5284	2682	7966
May	5341	2736	8077
June	6376	3218	9594
July	6110	3643	9753
TOTALS	31455 (64.6%)	17208 (35.4%)	48663



# Daily Averages of Sitters & Walkers

	Sitters (Ave.)	Walkers (Ave.)	Totals
Monday	1015 (68%)	466	1481
Tuesday	1025 (70%)	438	1463
Wednesday	1164 (72%)	459	1623
Thursday	1487 (67%)	719	2206
Friday	1084 (59%)	751	1835
Saturday	1616 (61%)	1034	2650
Sunday	1729 (65%)	925	2654



# Hourly Averages of Sitters & Walkers

	Sitters (Ave.)	Walkers (Ave.)	Totals
10 a.m. - 11 a.m.	1738 (58%)	1262	3000
Noon - 1 p.m.	3502 (65%)	1855	5357
3 p.m. - 4 p.m.	3880 (70%)	1676	5556

# Average Sitting Times

(in minutes)

	May	June	July	Average
10 a.m. - 11 a.m.	25.40	26.88	26.11	26.13
Noon - 1 p.m.	24.00	28.80	19.48	24.09
3 p.m. - 4 p.m.	24.34	29.85	24.68	26.29
Overall Average	24.58	28.51	23.42	25.50



# Sitting Patterns

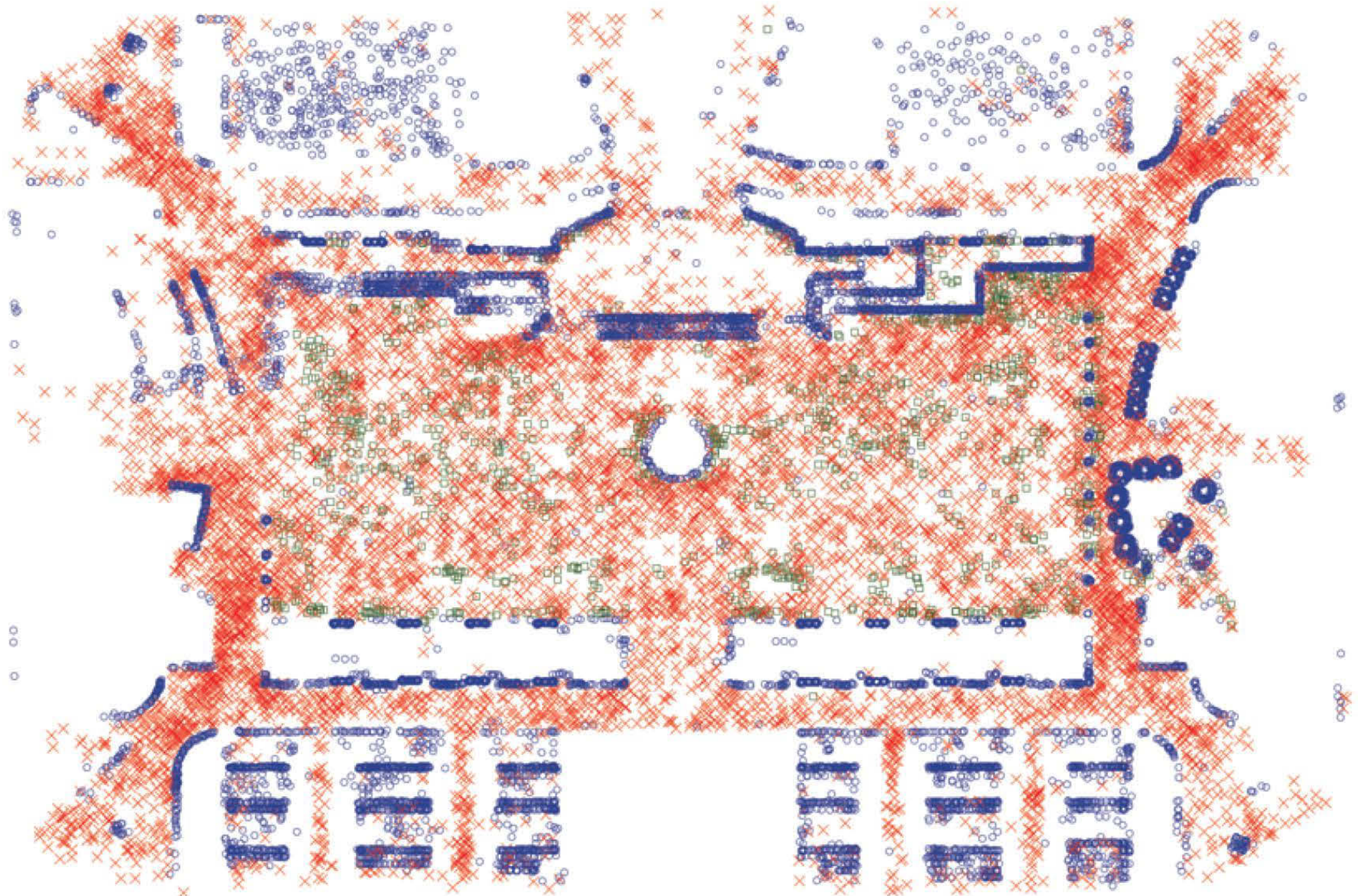
(in minutes)

PLACES TO SIT	May	June	July	Average
Lawn mounds	50.25	44.04	24.00	39.43
Armrest bench	21.32	28.36	23.09	24.26
Lawn terraces	28.94	29.28	24.56	27.59
Stone terraces	25.30	24.92	22.26	24.16
Stone steps	22.50	14.00	16.00	17.50
Cafe seating	25.33	24.41	23.13	24.29
Seatwall-planter edge	18.75	26.04	25.23	23.34
Movable chairs	22.70	25.12	22.12	23.31
Average per month				25.50



# Behavior Imprint

7,300 users



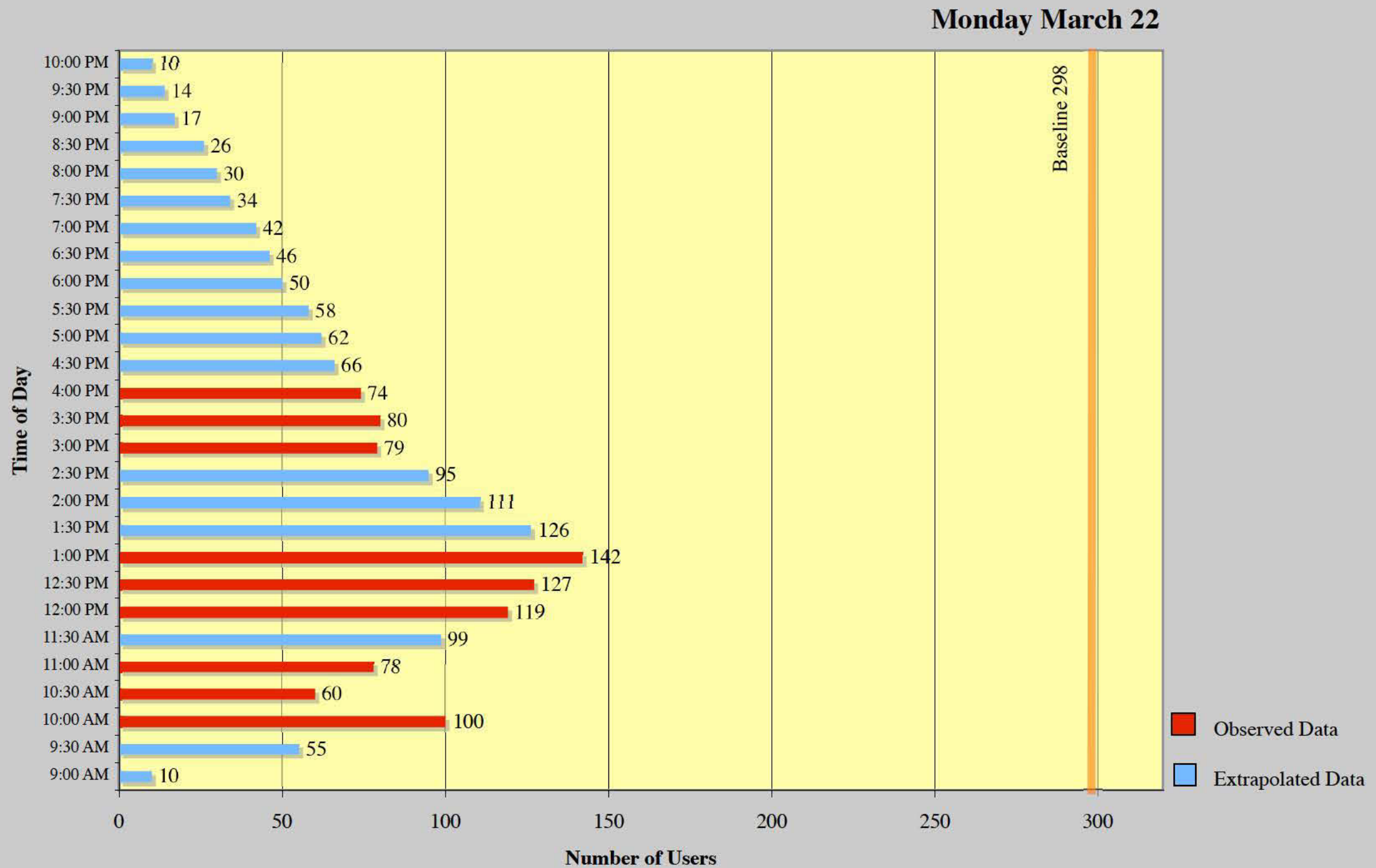
Sitters

Walkers

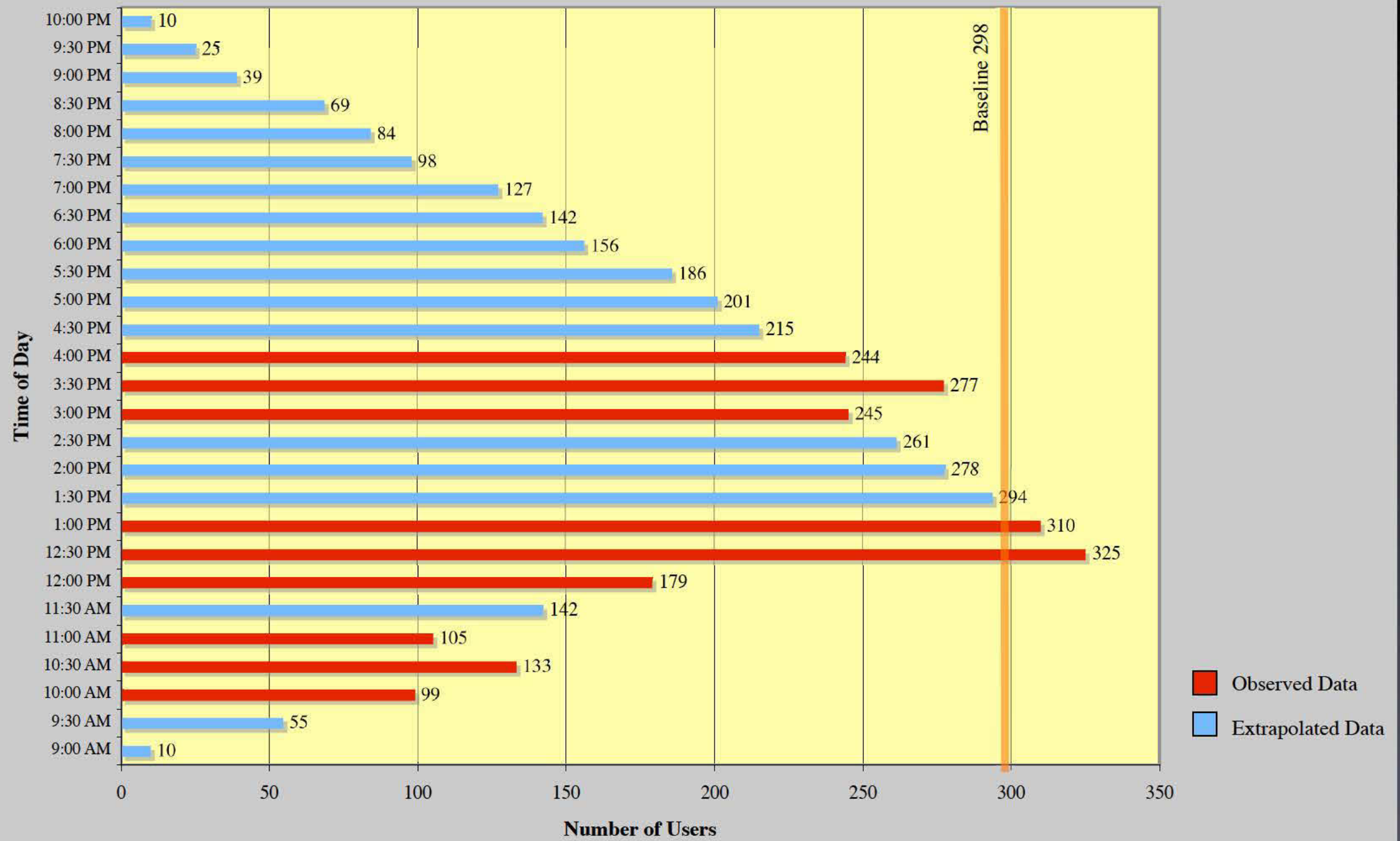
Sitters on chairs



# Static and extrapolated counts compared to the baseline...

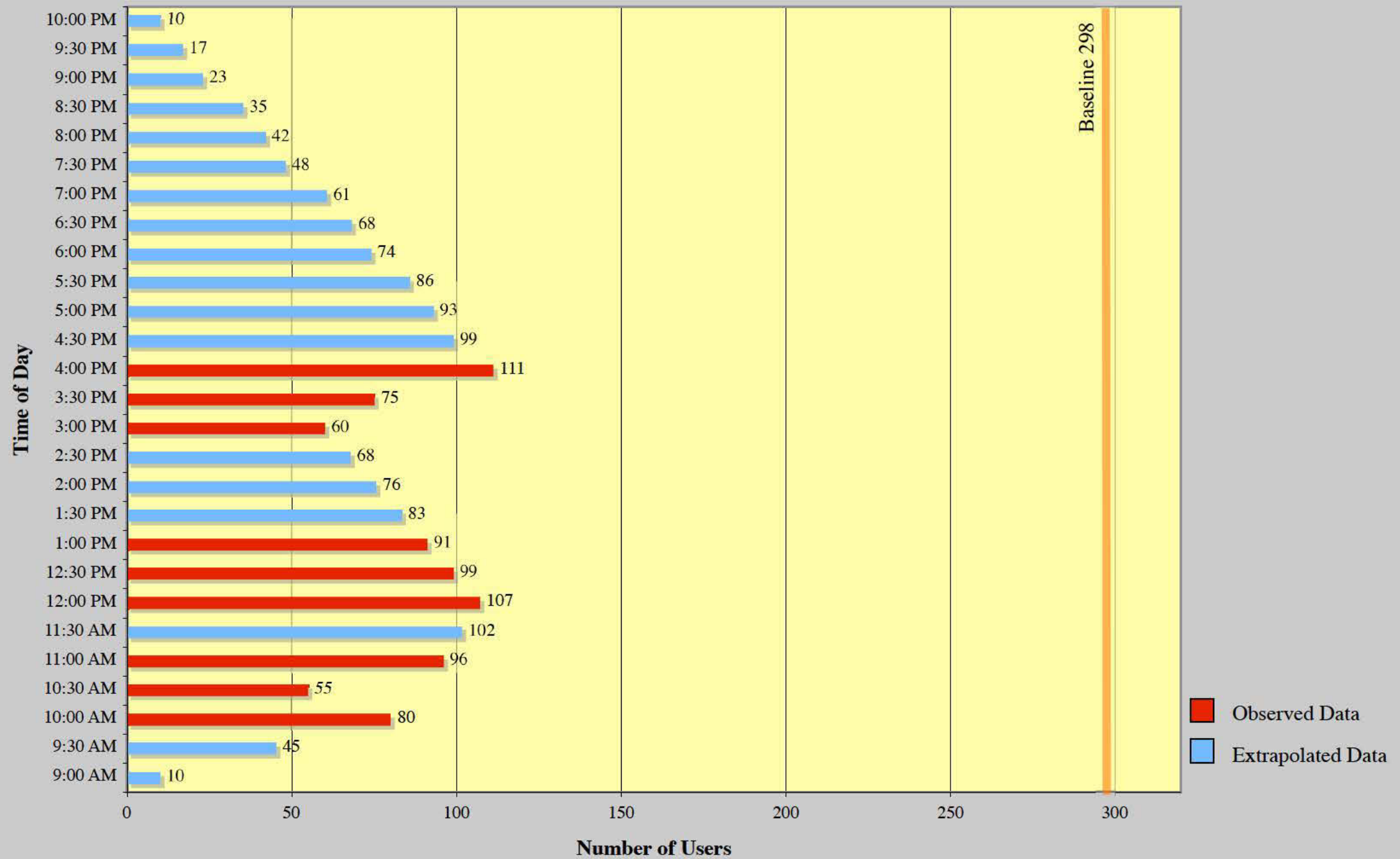


## Tuesday March 9

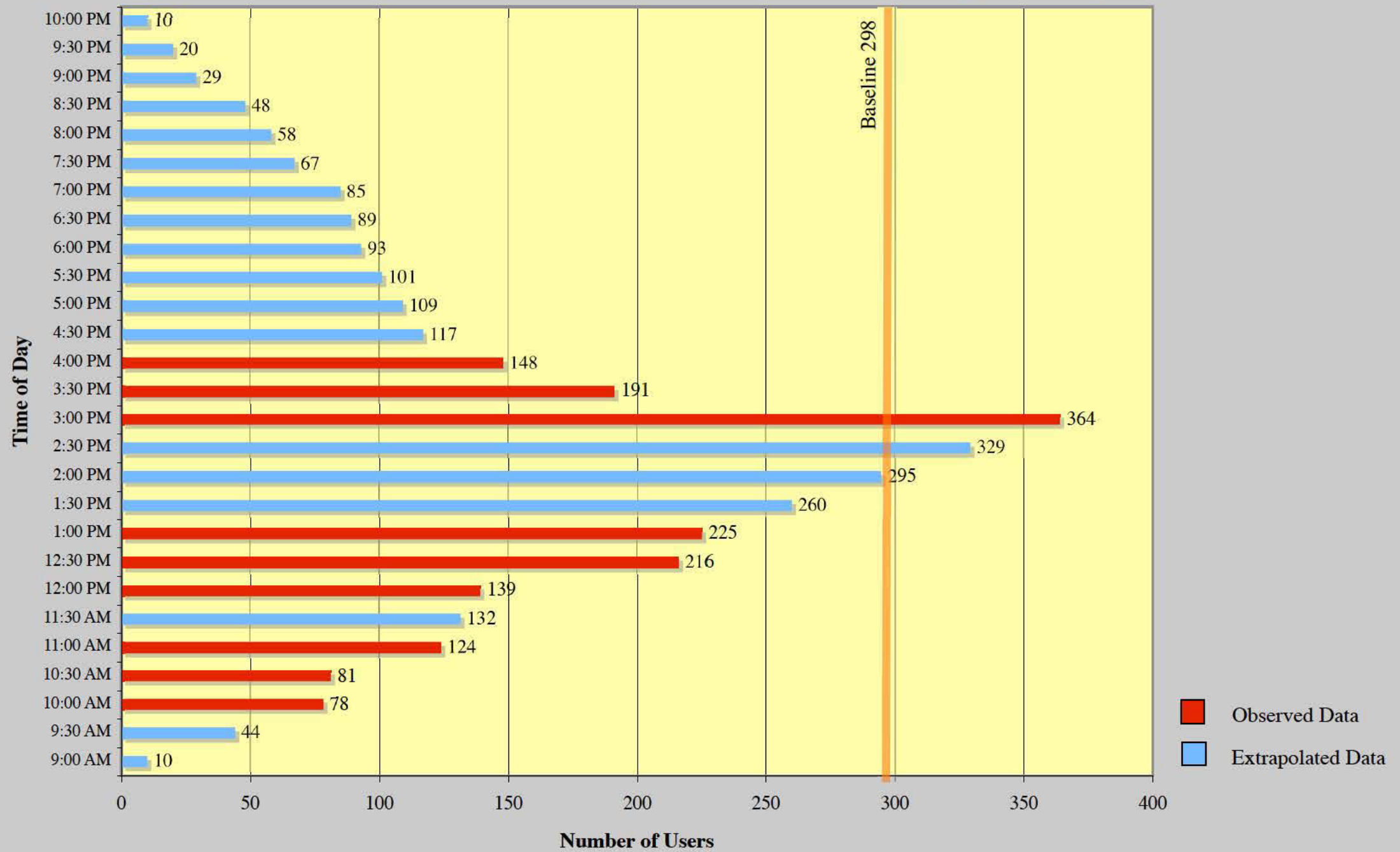




## Wednesday March 3

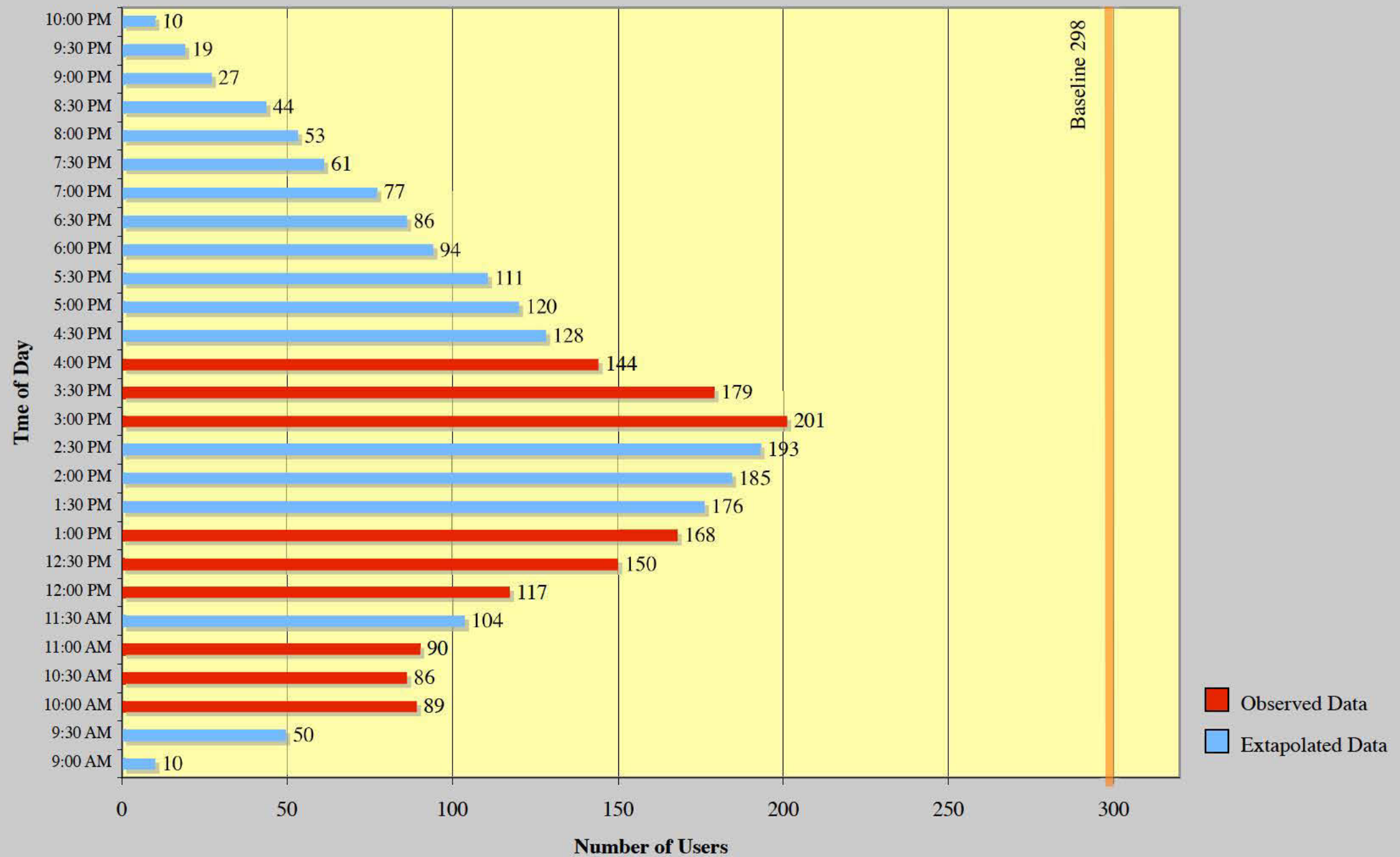


## Thursday February 12

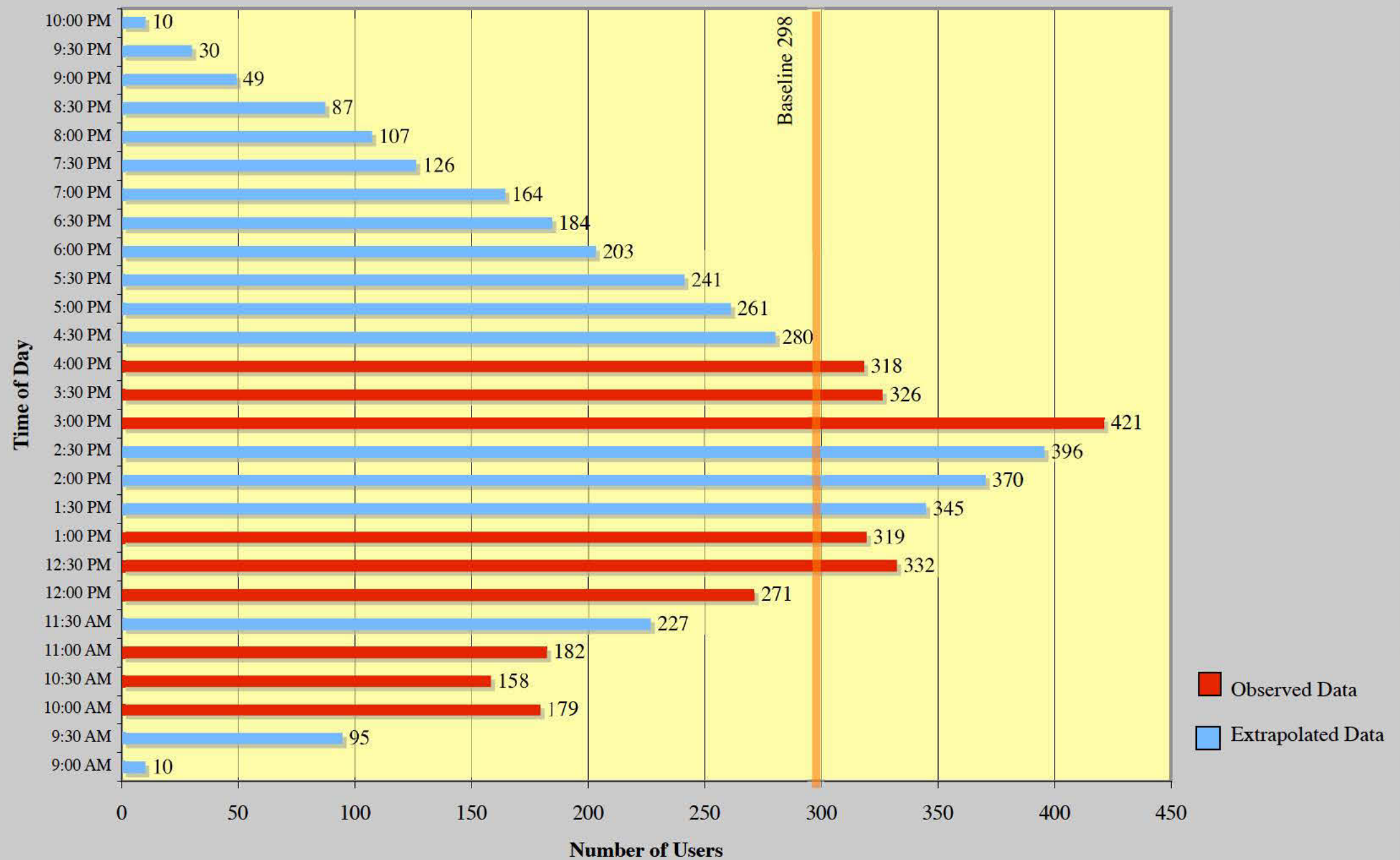




## Friday March 5

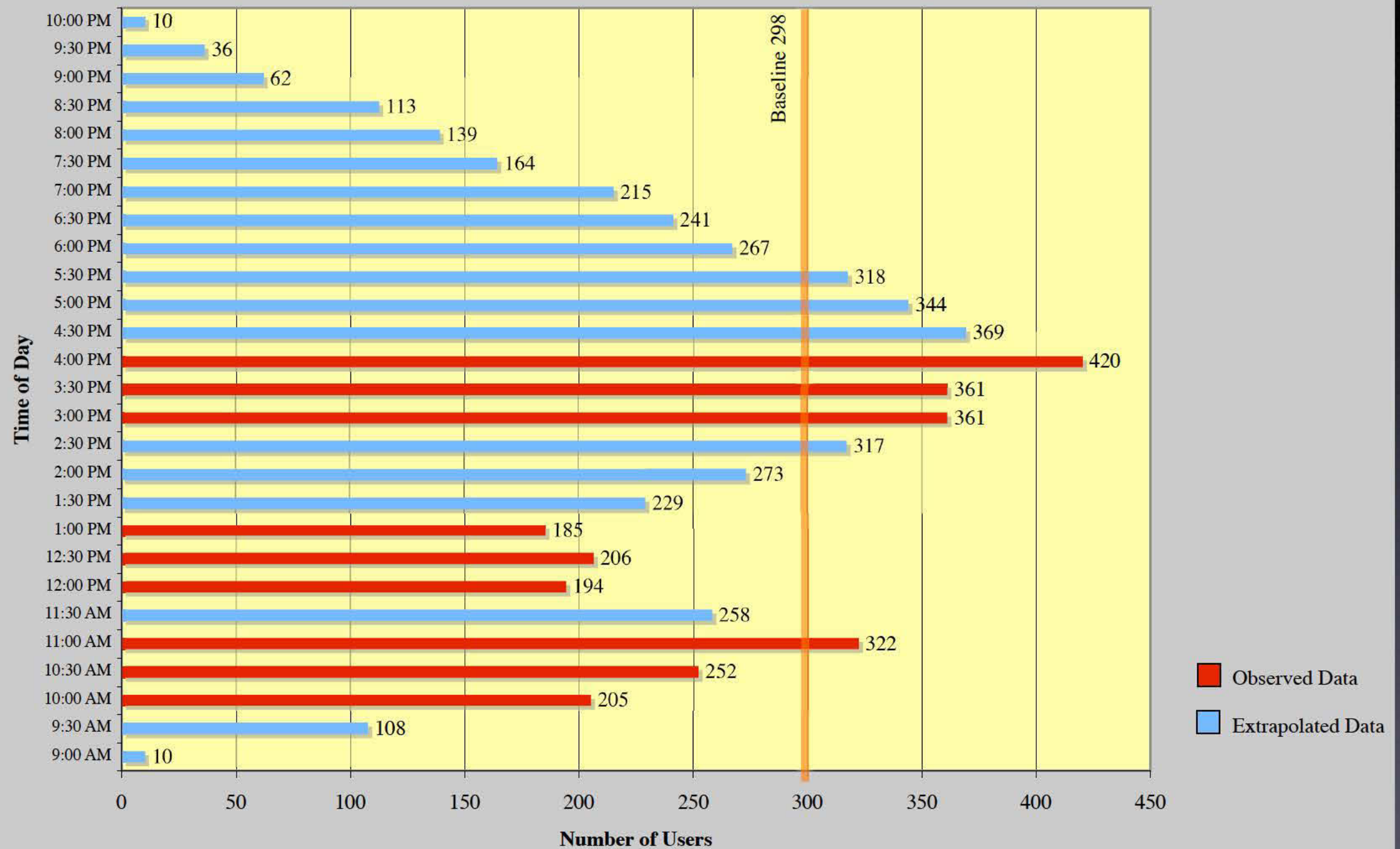


## Saturday February 28

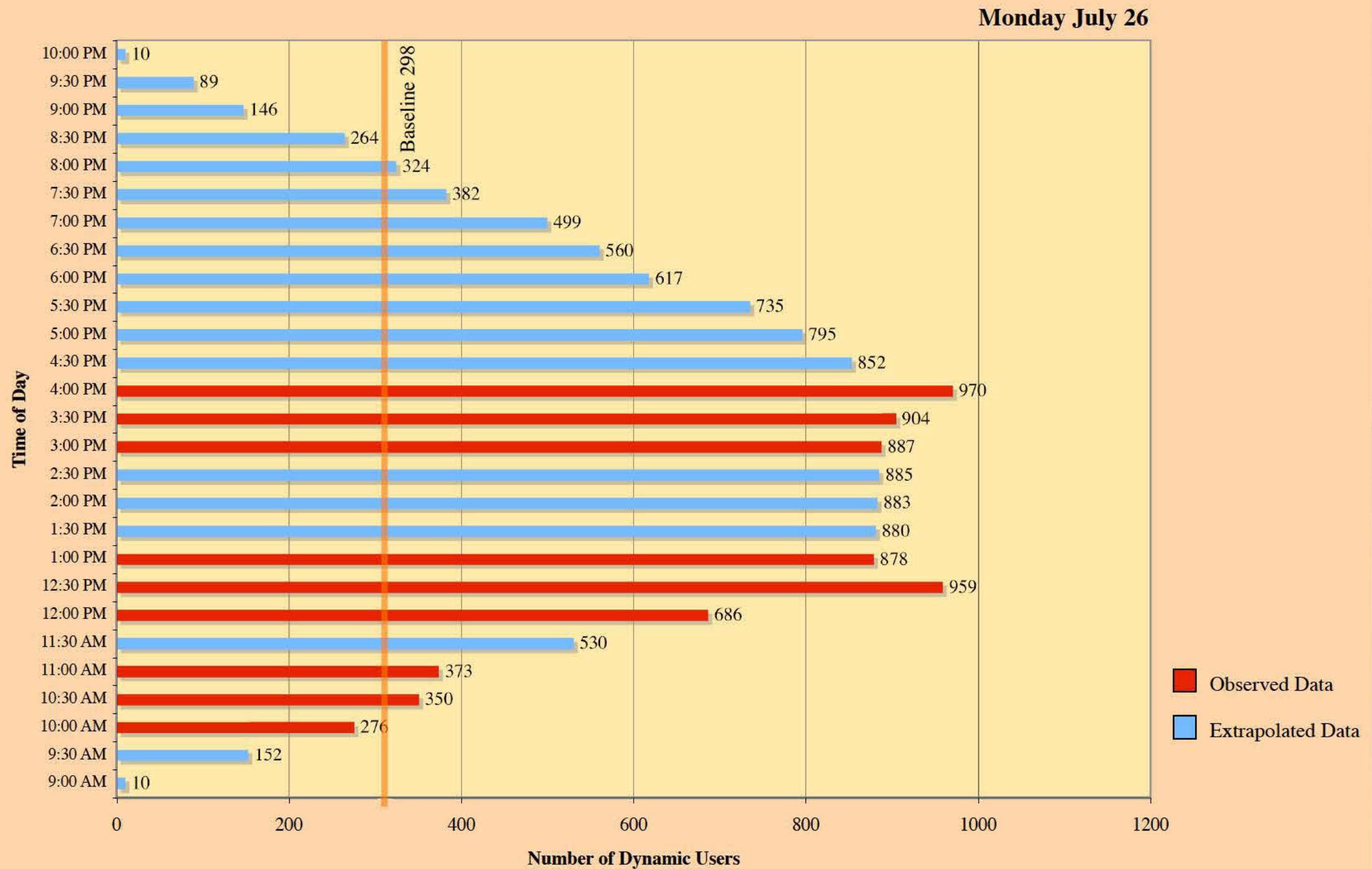




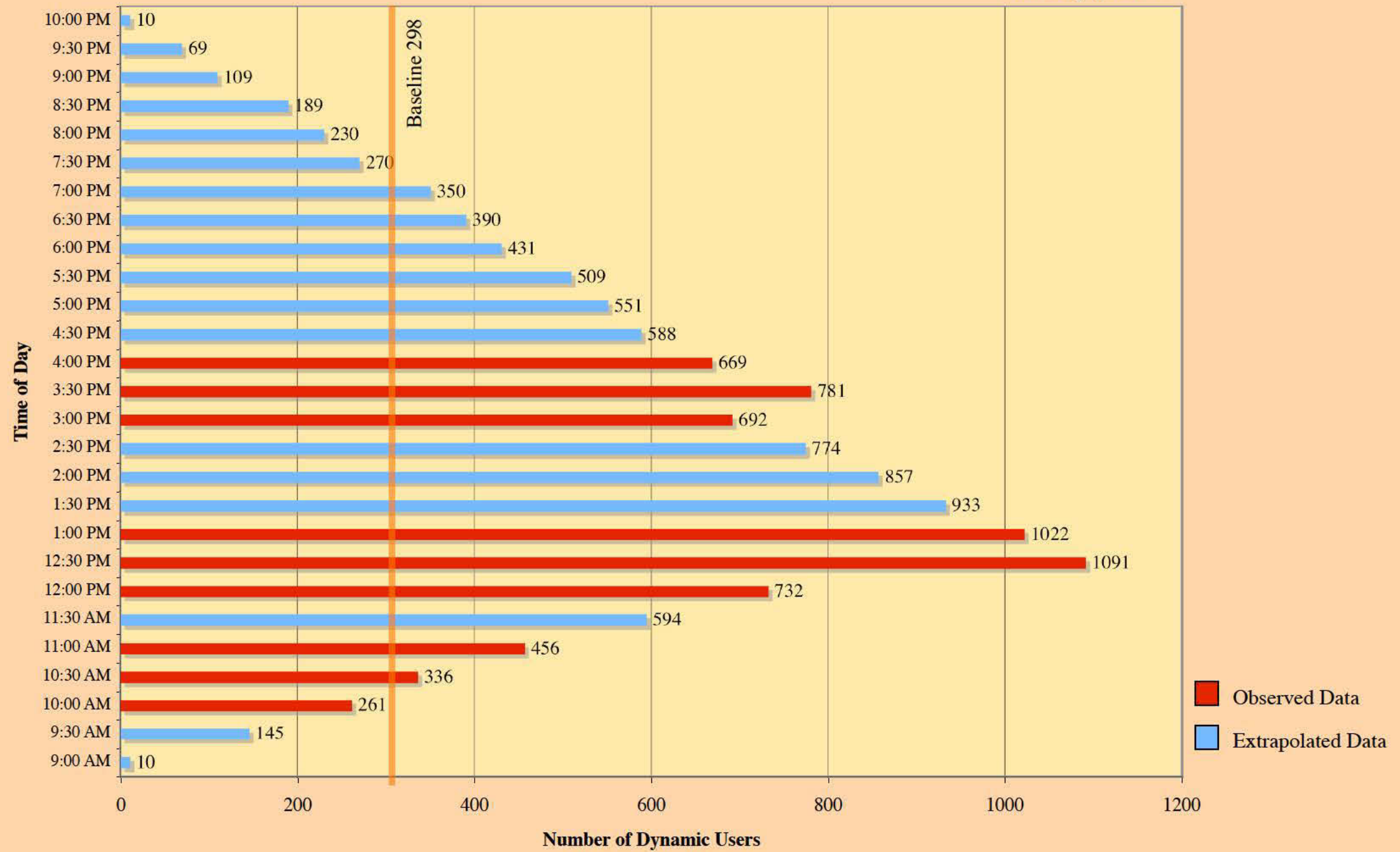
## Sunday March 14



# Dynamic counts compared to the Baseline...

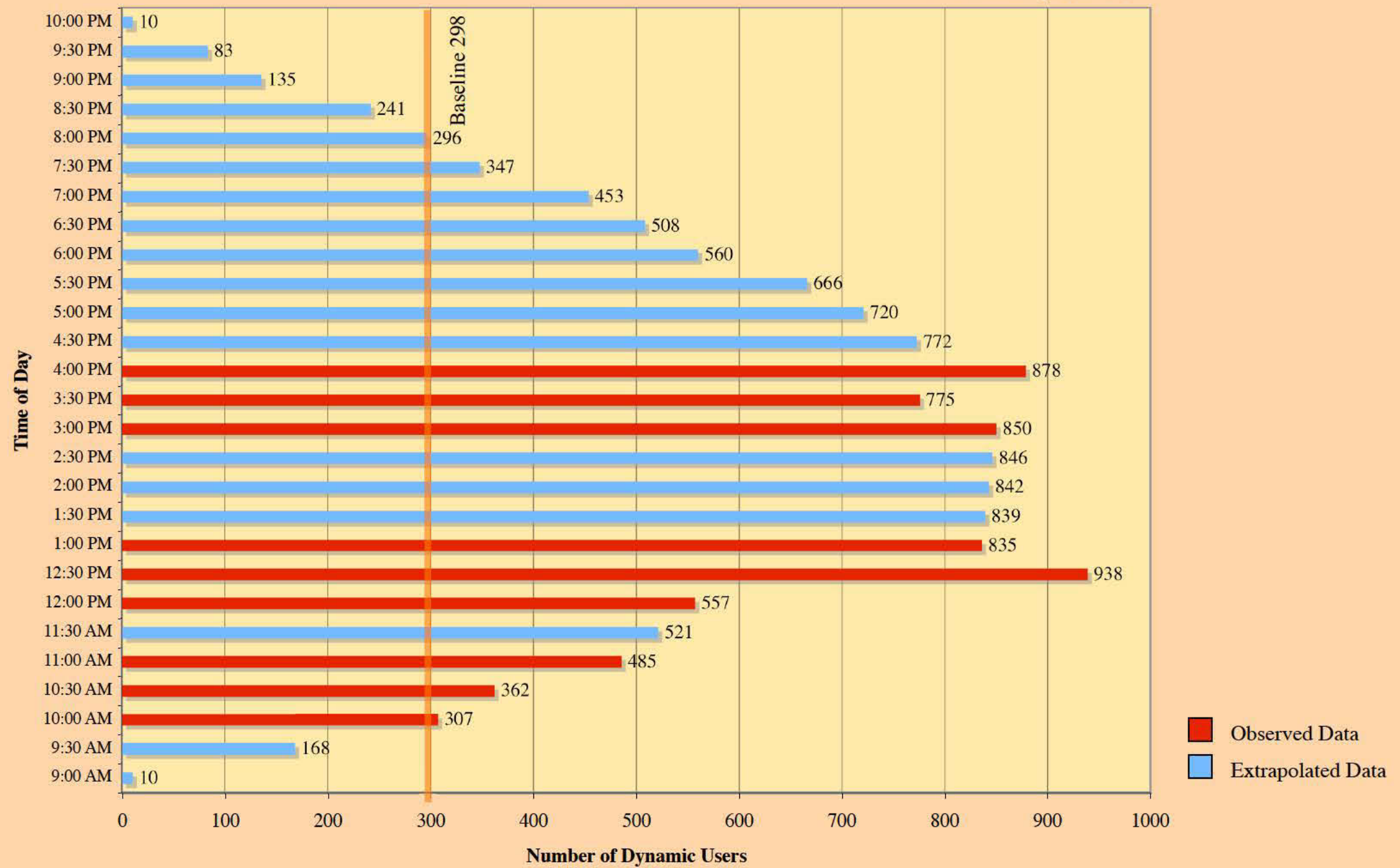


**Tuesday June 29**

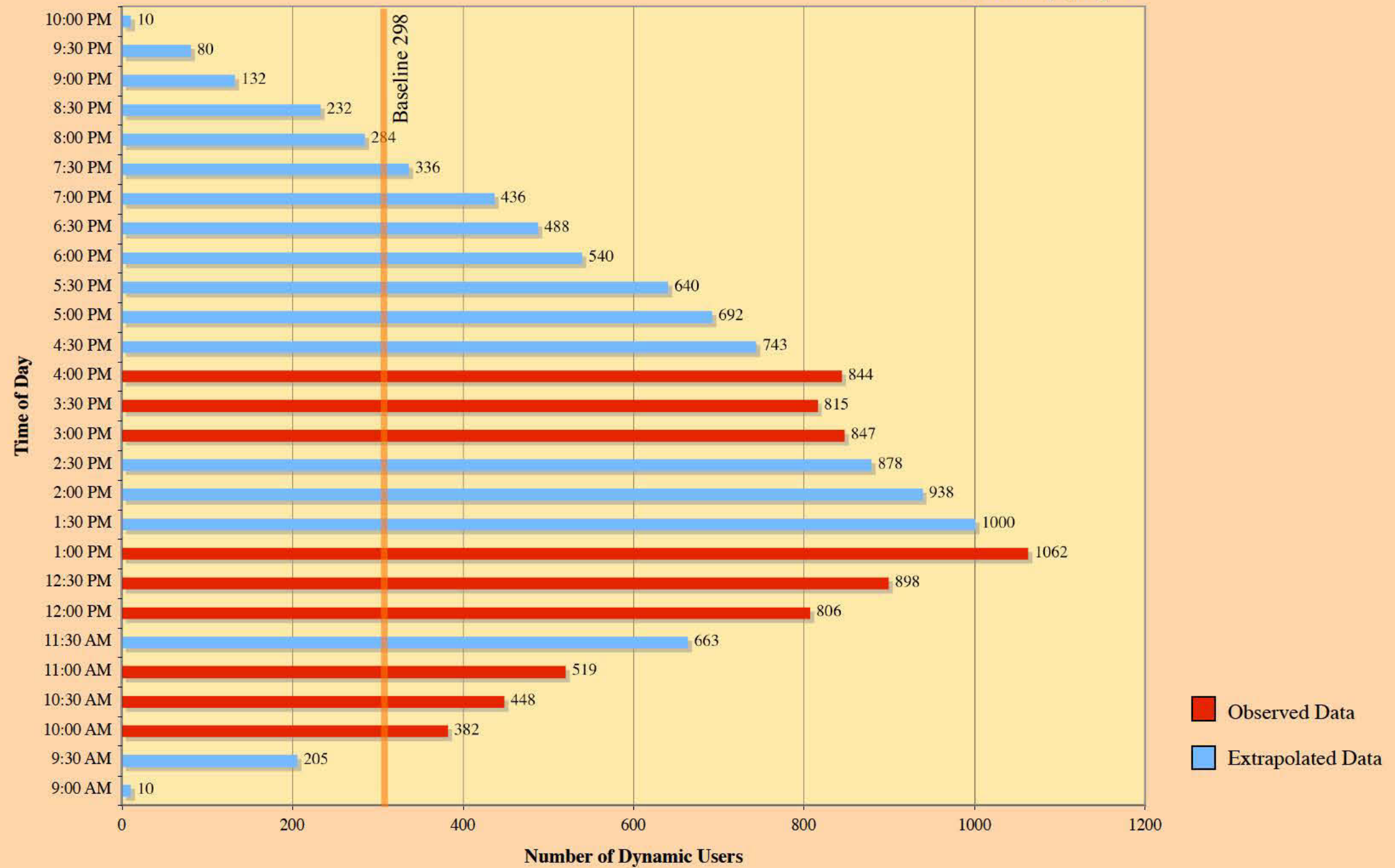




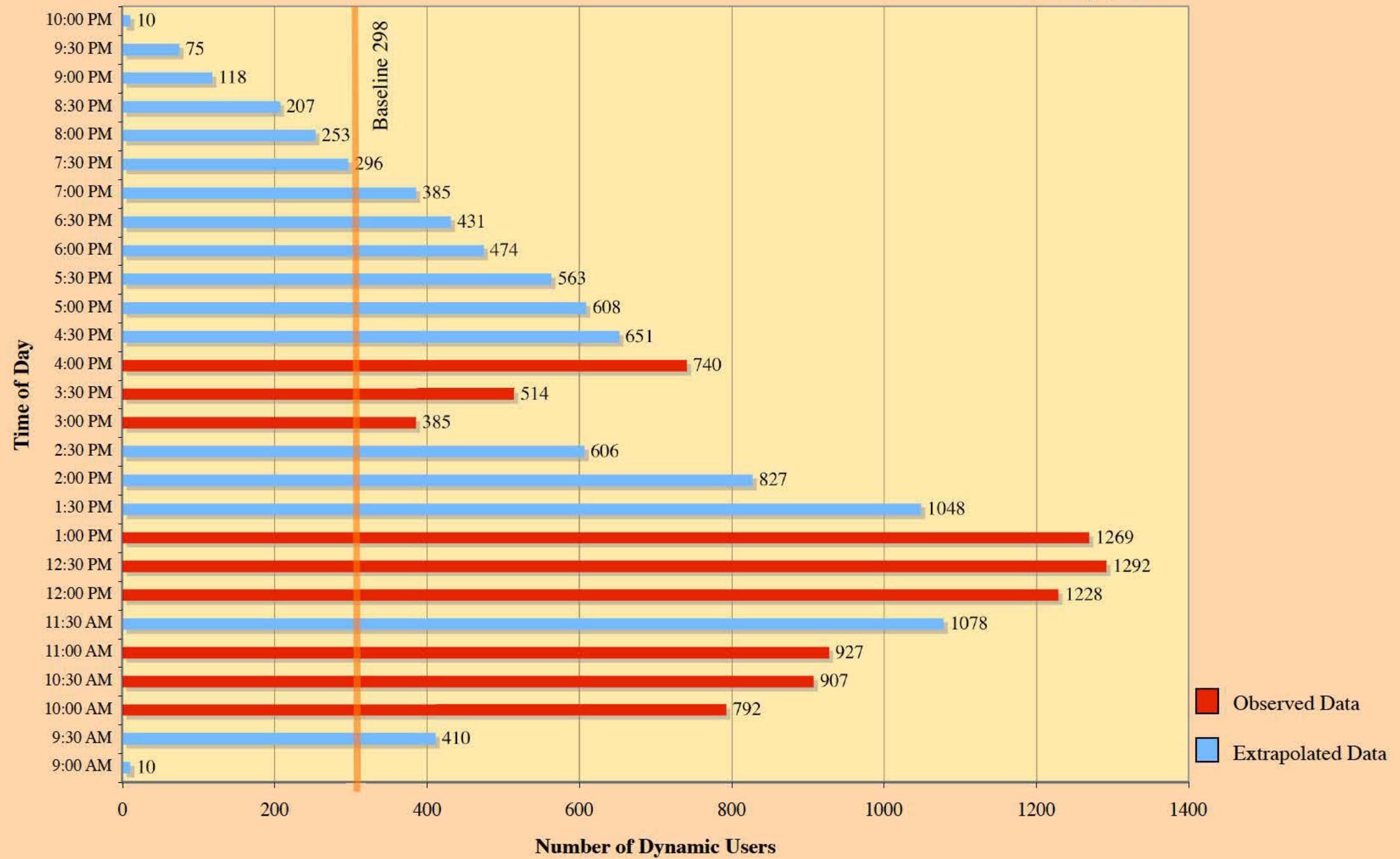
Wednesday June 16



**Thursday July 15**

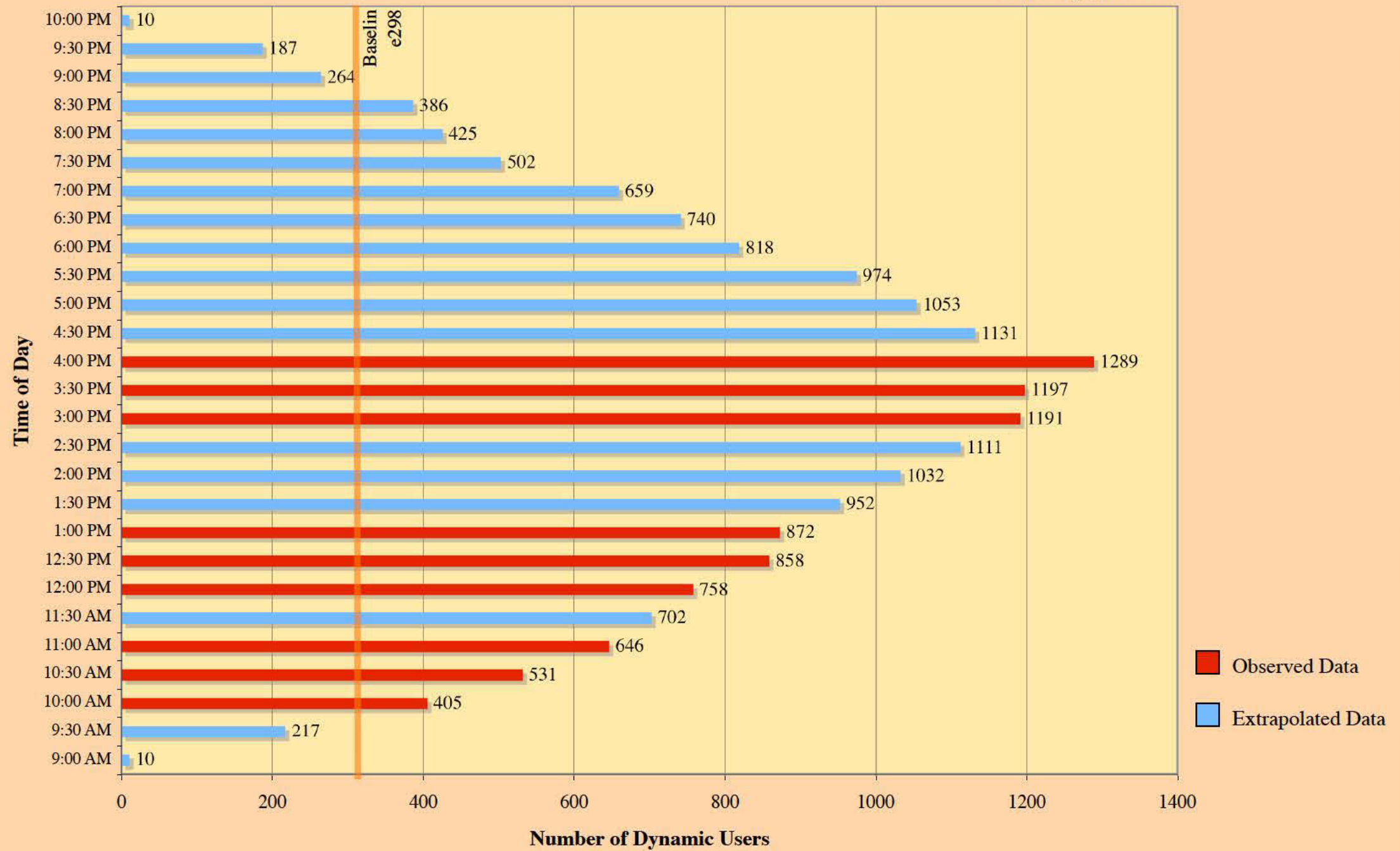


Friday July 23

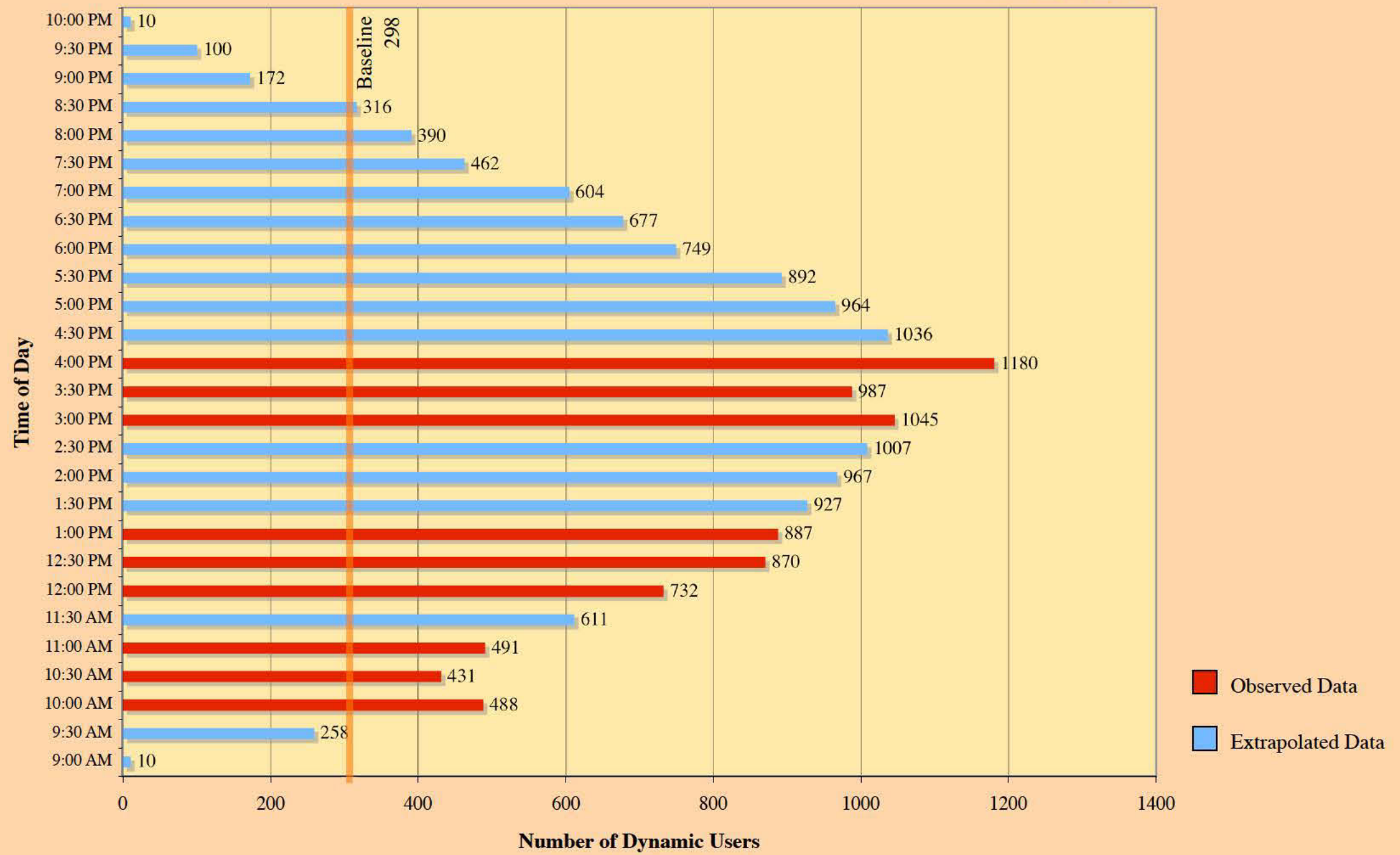




**Saturday June 12**



Sunday July 18



























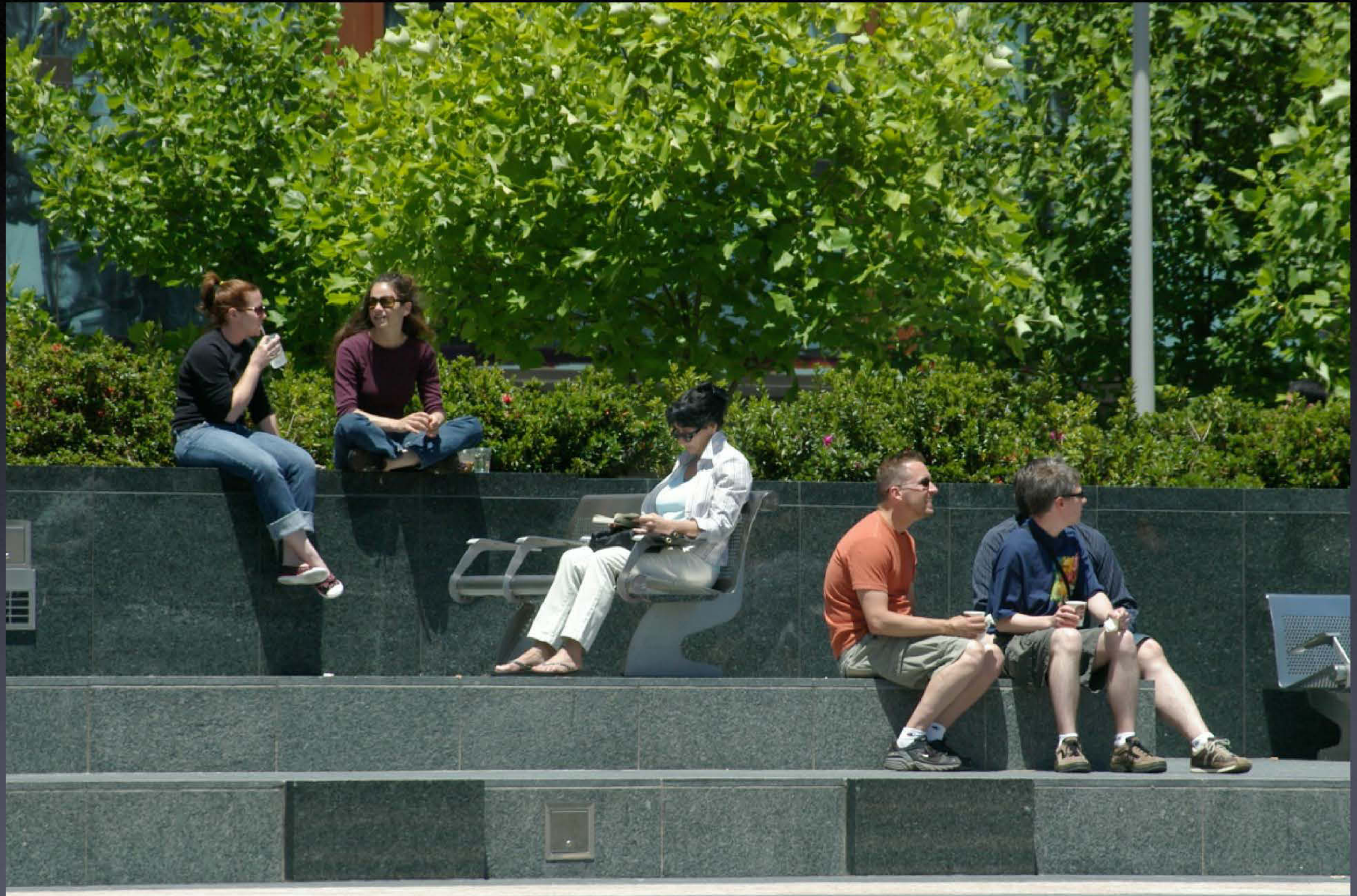
















EMPORIO  
RULLI  
IL CAFFÈ  
ESPRESSO BAR  
WINE BAR  
ITALIAN PASTRIES  
PANINI SANDWICHES  
GELATO  
CON TOP CE 100% SQUADRA  
CHILATO SORBETTO PANINI



























































# Density of use...

- Density can be measured according to number of users per area. This is an annual comparison among five parks of various sizes:

Public Space	Acres (gross)	Annual Users	Users/acre	Users/square foot
Golden Gate Park San Francisco	1,015	15 million	19,705	.45
Central Park New York	815	20 million	24,540	.56
Millennium Park Chicago	25	6 million	240,000	6
Bryant Park New York	8	10 million	1,250,000	29
Union Square San Francisco	2.6	4.63 million	1,780,770	41



# Findings...

- Dynamic Use exceeded the baseline on 25 of the 26 observation days.
- Static Use exceeded the baseline on 16 of the 26 observation days.
- The lunch hour was the most populated time of day during the week.
- The afternoon hour was the most populated time of day on the weekends, as well as overall.
- Saturday was the most populated day; Tuesday was the least populated.
- 45% of visitors who shop, dine, attend the theater or stay in a hotel in the Union Square District are also using the Square.



# Findings...

- Sitters outnumbered walkers 2 to 1 during observations; but walkers outnumbered sitters 5 to 1 during dynamic use, accounting for turnover.
- Sitters spent less time in the Square during lunch hour and more time in both the morning and afternoon hours.
- During each 30 minutes, the turnover rate for sitters is 1.1765. The turnover rate for walkers is 6.
- The mobility index for Union Square is 2.78. This is the average turnover rate for sitters and walkers each one-half hour.
- Patterns of users who sought out the shadows became evident only when the ambient temperature reached 80 degrees.



# Interpretation...

- Users prefer the afternoon for socializing. Mornings and afternoons appear to be more leisurely than mid-day use.
- Lunchtime use appears to be attracting workers who have only half-hour breaks and are within 6 minutes of the office, on average.
- Tuesday is a slow day most likely because many tourists leave town on Monday and come to town later in the week.
- Weekends might be attracting more regional visitors as well as local residents, who prefer to gather in the late afternoon.



# Interpretation...

- At any point in time, twice as many users will be sitting, compared to walking. Sitting patterns are equally distributed throughout the paved terraces, tables and chairs, benches and lawn.
- Users clearly prefer to sit in the sun and are drawn to the Square when the fog burns off. Rarely does it get hot enough that users will search out the shadows ( 5 to 7 days per year on average).



# Implications...

- To what can we attribute the dominant activation levels? Location within a destination neighborhood is the most likely answer.
- One linear foot of sitting surface for every 17 square feet of accessible area has been provided in the design.
- A variety of personal and group subspaces also contributes to selectivity and length of stay.
- Seasonal variation on the Square could be compared to retail activity and hotel occupancy to determine any association or correlation.
- Events on the Square can be schedule when the higher levels of incidental use are occurring.

# Implications...

- The number and pace of walkers indicate that many more users are walking through the Square than sitting in the Square over the course of a day; however, the number of sitters may be the primary attractor.
- The Mobility Index can indicate both high turnover and lengthy stays. Is there an optimum proportion of walkers to sitters? How does this M. I. compare to other public spaces of similar size? Is there an ideal M. I.?



# Implications...

- Maintenance staff could be assigned to public spaces according to levels of use. The plantings at Union Square are stressed due to the heavy use.
- Design future public spaces that optimize baseline levels of use; especially useful in lower density neighborhoods. Match the size of the public space with the user baseline. Results of this study suggest that existing parks and public spaces may be larger in size than needed.
- Five, one-acre public spaces may be more useful than one, five-acre public space because of higher probability of available users who could walk rather than drive to a public space.

# Summary...

- The **baseline method** uses the observation survey to sample numbers of users in a public space at a given time interval, on randomly selected days and over six months.
- The analyses generate user data sufficient to project estimates of daily, weekly, monthly, seasonal and annual visitation.
- This methodology is applicable to any public space in any city.
- Once the baseline of available users is determined for a given public space, field observations document whether and how often the baseline is exceeded.
- The public space is successfully activated when the baseline is exceeded.



# Statistical basis...

- First and foremost, calculating the proportion of residents, workers, and visitors that might be available to visit the public space establishes the activation threshold.
- Analyzing behavior in the baseline model takes observation of public space use to another level.
- Measuring static counts, and calculating extrapolated and dynamic counts, duration of stay, and seating preferences are key to understanding the full extent of public space activation.
- Details about the public space are important, such as overall size, accessible area, proportion of the total city park and open space acreage.

# Next Steps...

- Build a database of results from many public spaces, using this model.
- Observe common behaviors and physical characteristics of activated public spaces.
- Postulate as to the possible associations and correlations between design characteristics and activation.
- Investigate the influences that mobility and maneuverability (the mobility index) might have on continuous activation.



## Design Team:

*The most recent design of Union Square was the result of a design competition, sponsored by the San Francisco Prize.*

*In July 1997, in partnership with April Philips Design Works, MD Fotheringham, Landscape Architects, Inc., were selected as one of five winners in the Second Annual San Francisco Prize Design Competition, to redesign Union Square, the principal open space in the heart of San Francisco's commercial district. Over 300 design entries were received. Our submittal, "All the Square is a Stage", was the only landscape architect team among the five winners. We proposed an evolutionary idea, a formal and programmatic open space solution organized on a set of bi-symmetrical cross-axes and stepped terraces. The design for Union Square invites a range of social and cultural experiences, connecting spaces and features to adjacent streets. The new design acknowledges individual and group needs by shaping and linking intimate and grand outdoor spaces, utilizing furnishings, materials and surfaces that evoke refinement and comfort. A grand central plaza, focused on the Dewey Memorial at the heart of the Square, is framed by retail uses and a permanent stage. Existing slopes of the garage roof were redesigned to create a level granite paved central plaza with garden terraces at the edge and dramatic entrances at each corner. Paving materials recall the natural origins of the site - sand and water. Seasonal planting offers an infusion of color at focal points. Visitor amenities include ticket box office, café with outdoor dining, ample seating areas with movable table and chair seating, light sculptures, elevator, and lawn terraces. Future improvements will include a water feature and extending design elements into bordering streets and up to adjacent storefronts.*

*Design Landscape Architects: Philips + Fotheringham Partnership  
Landscape Architects of Record: Royston, Hanamoto, Alley & Abey  
Architects: Patri Merker Architects  
Civil Engineers: Olivia Chen Consultants  
Structural Engineers: Faye Bernstein & Associates;  
Mechanical Engineers: Takahashi Consulting Engineers  
Lighting Design: Francis Krahe & Associates  
Graphic Design: Debra Nichols Design  
Fountain Design: CMS Collaborative  
Irrigation Design: James D. Eddy Associates  
Artists: R.M. Fischer & Vicki Saulls*