Walkers Report (June 2–6, 2025)

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Load & Prepare Data

```
data <- read_csv("C:/Users/jed_ferreras/PROMFI/50006-MIMMS.00/Walkers_06022025-06062025.csv")
```

```
## Rows: 316 Columns: 56
## ── Column specification ────────────────────────────────────────────────
## Delimiter: ","
## chr   (2): date, weekday
## dbl  (46): duration, Rate (walkers/min), walkers/10 min, focus/work done, p1...
## lgl   (7): p3, p23, p45, p46, p47, p48, p49
## time  (1): time
##
## ℹ Use `spec()` to retrieve the full column specification for this data.
## ℹ Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
names(data)[names(data) == "walkers/10 min"] <- "walkers_10_min"
names(data)[names(data) == "focus/work done"] <- "focus_score"

data$clock_time <- as_hms(data$time)
data$date <- as.Date(data$date)
data$rate_per_minute <- data$walkers_10_min / 10
data$rate_per_hour <- data$walkers_10_min * 6
data$hour <- hour(data$clock_time)
data$weekday <- factor(weekdays(data$date), levels = c("Monday", "Tues
day", "Wednesday", "Thursday", "Friday"))
data$period <- ifelse(data$clock_time < as_hms("12:00:00"), "Morning",
                      ifelse(data$clock_time < as_hms("14:00:00"), "Lu
nch", "Afternoon"))
```

Daily Summary Stats

```
daily_summary <- data %>%
  group_by(date) %>%
  summarise(
    avg_min = mean(rate_per_minute),
    avg_hour = mean(rate_per_hour),
    max_rate = max(rate_per_minute),
    total_walkers = sum(walkers_10_min),
    avg_focus = mean(focus_score, na.rm = TRUE)
  )

knitr::kable(daily_summary, caption = "Daily Averages and Focus Score
s")
```

Daily Averages and Focus Scores

date	avg_min	avg_hour	max_rate	total_walkers	avg_focus
0006-02-20	0.6082192	36.493151	3.0	444	1.217391
0006-03-20	0.6479452	38.876712	2.9	473	1.000000
0006-04-20	0.0423529	2.541177	1.4	36	0.000000

date	avg_min	avg_hour	max_rate	total_walkers	avg_focus
0006-05-20	0.5247059	31.482353	2.2	446	1.115385

Before and After Lunch Periods

```
period_summary <- data %>%
  group_by(date, period) %>%
  summarise(
    avg_rate_min = mean(rate_per_minute),
    avg_focus = mean(focus_score, na.rm = TRUE),
    .groups = "drop"
  )

knitr::kable(period_summary, caption = "Average Rate and Focus by Peri
od")
```

Average Rate and Focus by Period

date	period	avg_rate_min	avg_focus
0006-02-20	Afternoon	0.3270270	1.2857143
0006-02-20	Lunch	1.1666667	1.0833333
0006-02-20	Morning	0.7625000	1.2500000
0006-03-20	Afternoon	0.2864865	1.2000000
0006-03-20	Lunch	1.2250000	1.0000000
0006-03-20	Morning	0.9166667	0.9444444
0006-04-20	Afternoon	0.0900000	0.0000000
0006-04-20	Lunch	0.0000000	NaN
0006-04-20	Morning	0.0000000	NaN
0006-05-20	Afternoon	0.1405405	NaN

date	period	avg_rate_min	avg_focus
0006-05-20	Lunch	0.9916667	NaN
0006-05-20	Morning	0.7638889	1.1153846

Peak Time Blocks

```
peak_blocks <- data %>%
  group_by(date) %>%
  top_n(1, rate_per_minute) %>%
  select(date, time, rate_per_minute)

knitr::kable(peak_blocks, caption = "Highest Peak Time Per Day")
```

Highest Peak Time Per Day

date	time	rate_per_minute
0006-02-20	13:00:00	3.0
0006-03-20	13:50:00	2.9
0006-04-20	15:00:00	1.4
0006-05-20	09:20:00	2.2

Day with Most Foot Traffic

```
busiest_day <- daily_summary %>%
  filter(avg_min == max(avg_min))

knitr::kable(busiest_day, caption = "Day with Highest Average Walkers
per Minute")
```

Day with Highest Average Walkers per Minute

date	avg_min	avg_hour	max_rate	total_walkers	avg_focus

date	avg_min	avg_hour	max_rate	total_walkers	avg_focus
0006-03-20	0.6479452	38.87671	2.9	473	1

Extrapolated Daily Walkers and Peak Hour Rate

Compute max rate per minute and extrapolated full-day total per date

```
extrapolated_summary <- data %>%
  group_by(date) %>%
  summarise(
    observed_minutes = n() * 10,
    total_walkers = sum(walkers_10_min),
    avg_rate_minute = mean(rate_per_minute),
    extrapolated_8hr_total = avg_rate_minute * 60 * 8,
    peak_minute_rate = max(rate_per_minute),
    peak_hourly_rate = round(max(rate_per_minute) * 60, 1),
    .groups = "drop"
  )

# Display table
knitr::kable(
  extrapolated_summary,
  digits = 2,
  caption = "Extrapolated Total Walkers and Peak Hourly Rate (Based on
Observed Intervals)"
)
```

Extrapolated Total Walkers and Peak Hourly Rate (Based on Observed Intervals)

date	observed_minutes	total_walkers	avg_rate_minute	extrapolated_8hr_tot
0006-02-20	730	444	0.61	291.9

date	observed_minutes	total_walkers	avg_rate_minute	extrapolated_8hr_tot
0006-03-20	730	473	0.65	311.(
0006-04-20	850	36	0.04	20.3
0006-05-20	850	446	0.52	251.8

Predicted Walkers by Weekday and Hour

```
pattern_summary <- data %>%
  filter(rate_per_minute > 0) %>%     # Exclude zero traffic times
  group_by(hour) %>%                  # Don't group by weekday anymore
  summarise(
    avg_rate = mean(rate_per_minute),
    .groups = "drop"
  )

knitr::kable(pattern_summary, caption = "Average Walkers per Minute by
Hour (All Days, Excluding Zero-Traffic Times)")
```

Average Walkers per Minute by Hour (All Days, Excluding Zero-Traffic Times)

hour	avg_rate
7	0.8400000
8	0.7666667
9	1.0529412
10	1.1705882
11	1.1777778
12	0.7722222

hour	avg_rate
13	1.4833333
14	0.7238095
15	0.8470588
16	0.6333333

Lowest Non-Zero Average Walking Rate

```
min_nonzero_rate <- data %>%
  filter(rate_per_minute > 0) %>%
  summarise(min_rate = min(rate_per_minute)) %>%
  pull(min_rate)

cat("🔻 The lowest non-zero observed walking rate is:", round(min_nonzero_rate, 2), "people per minute\n")
```

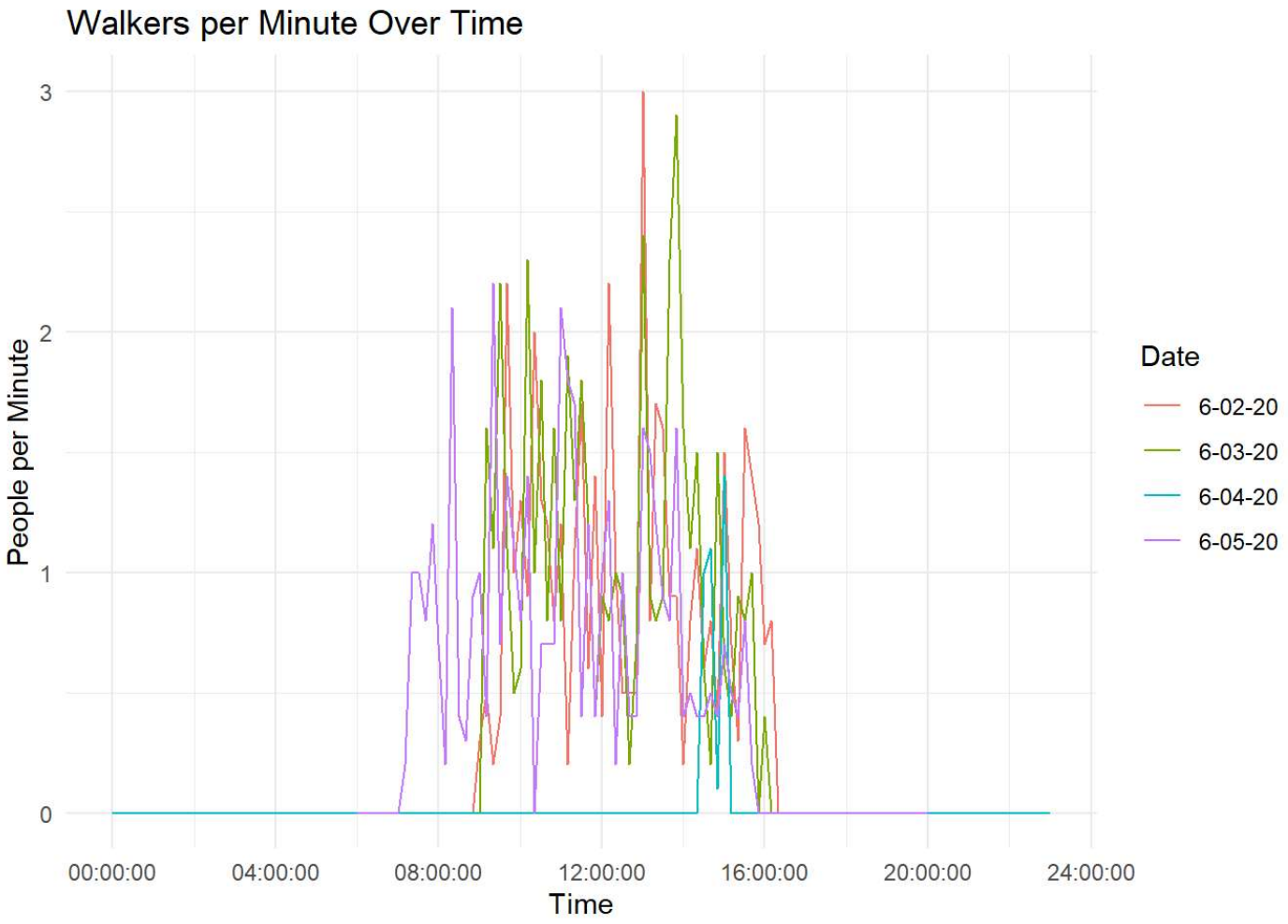
```
## 🔻 The lowest non-zero observed walking rate is: 0.1 people per minute
```

```
cat("⏱️ That means someone walked by about every", round(60 / min_nonzero_rate), "seconds (at slowest observed rate).\n")
```

```
## ⏱️ That means someone walked by about every 600 seconds (at slowest observed rate).
```

Walkers per Minute Over Each Day

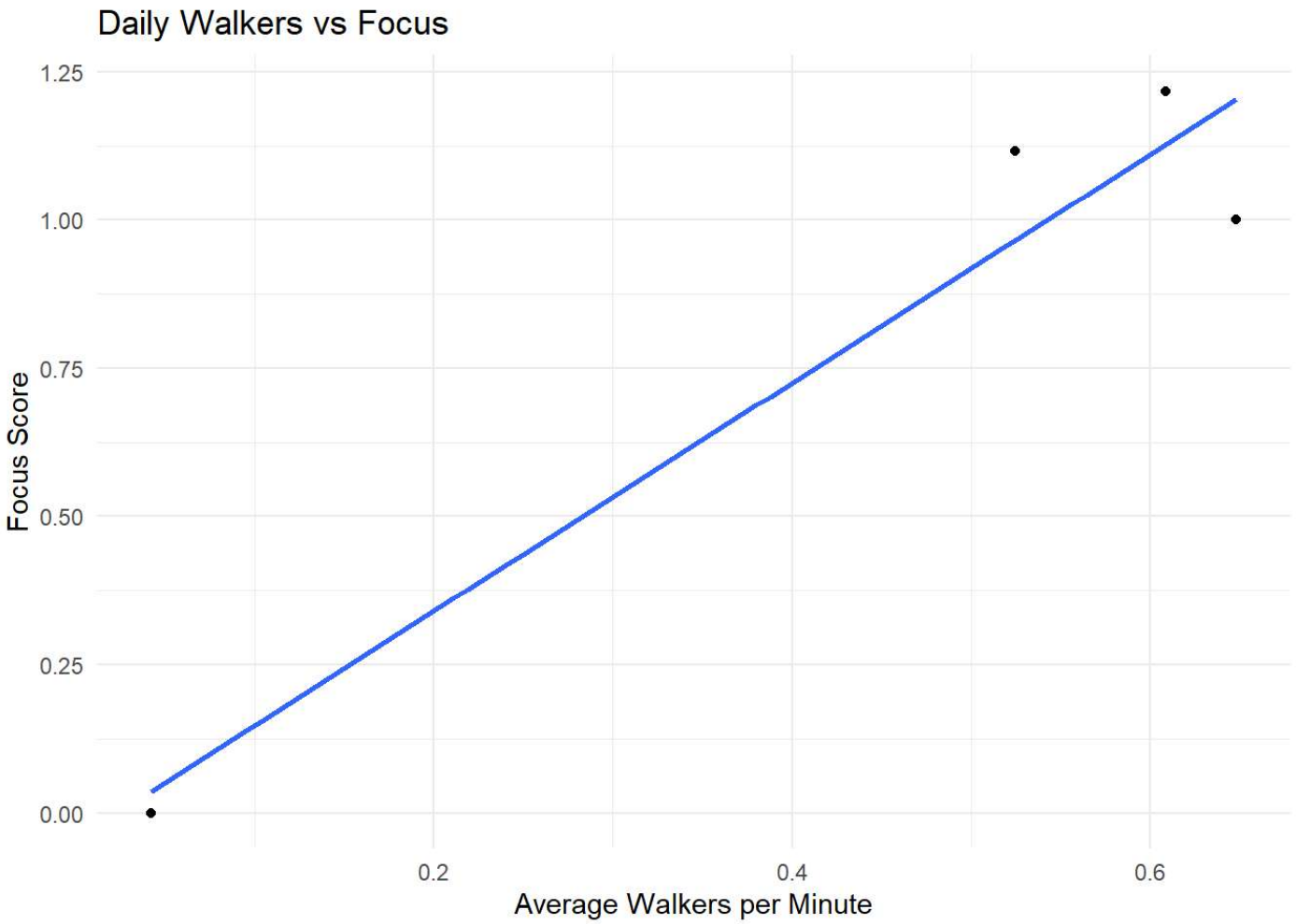
```
ggplot(data, aes(x = clock_time, y = rate_per_minute, color = as.factor(date))) +
  geom_line() +
  labs(title = "Walkers per Minute Over Time", x = "Time", y = "People per Minute", color = "Date") +
  theme_minimal()
```



Daily Walkers vs Focus Score

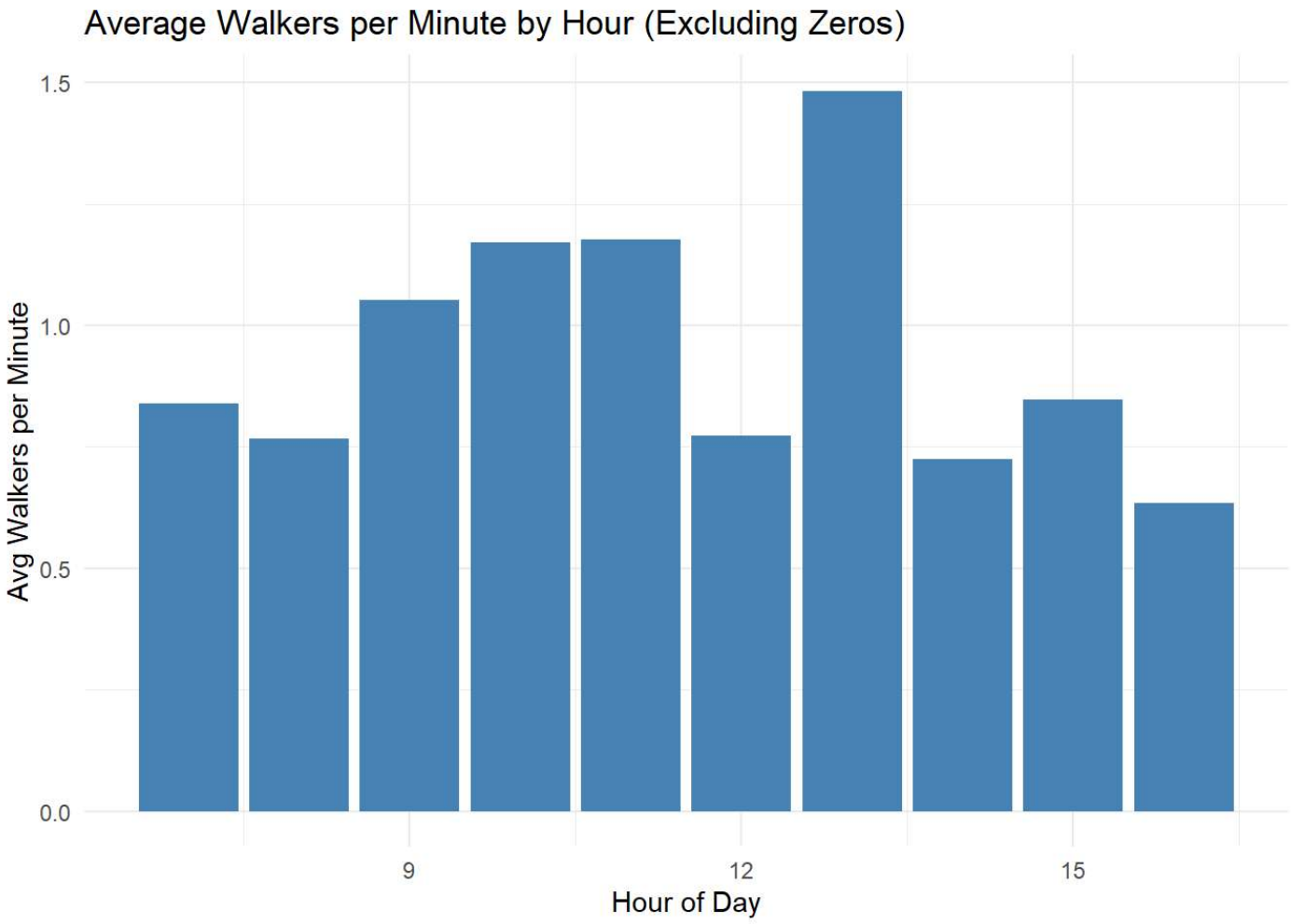
```
ggplot(daily_summary, aes(x = avg_min, y = avg_focus)) +
  geom_point() +
  geom_smooth(method = "lm", se = FALSE) +
  labs(title = "Daily Walkers vs Focus", x = "Average Walkers per Minu
te", y = "Focus Score") +
  theme_minimal()
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



Average Walkers per Minute by Hour

```
ggplot(pattern_summary, aes(x = hour, y = avg_rate)) +
  geom_col(fill = "steelblue") +
  labs(
    title = "Average Walkers per Minute by Hour (Excluding Zeros)",
    x = "Hour of Day",
    y = "Avg Walkers per Minute"
  ) +
  theme_minimal()
```



Summary

** On a daily basis, someone walks by my desk: • At the **highest rate**: 3 times per minute (once every 20 seconds) • At the **slowest rate**: once every 2 minutes • Typical interruption studies** report ~1 interruption every 5 minutes → Conclusion**: Compared to most offices, this environment is *much busier***