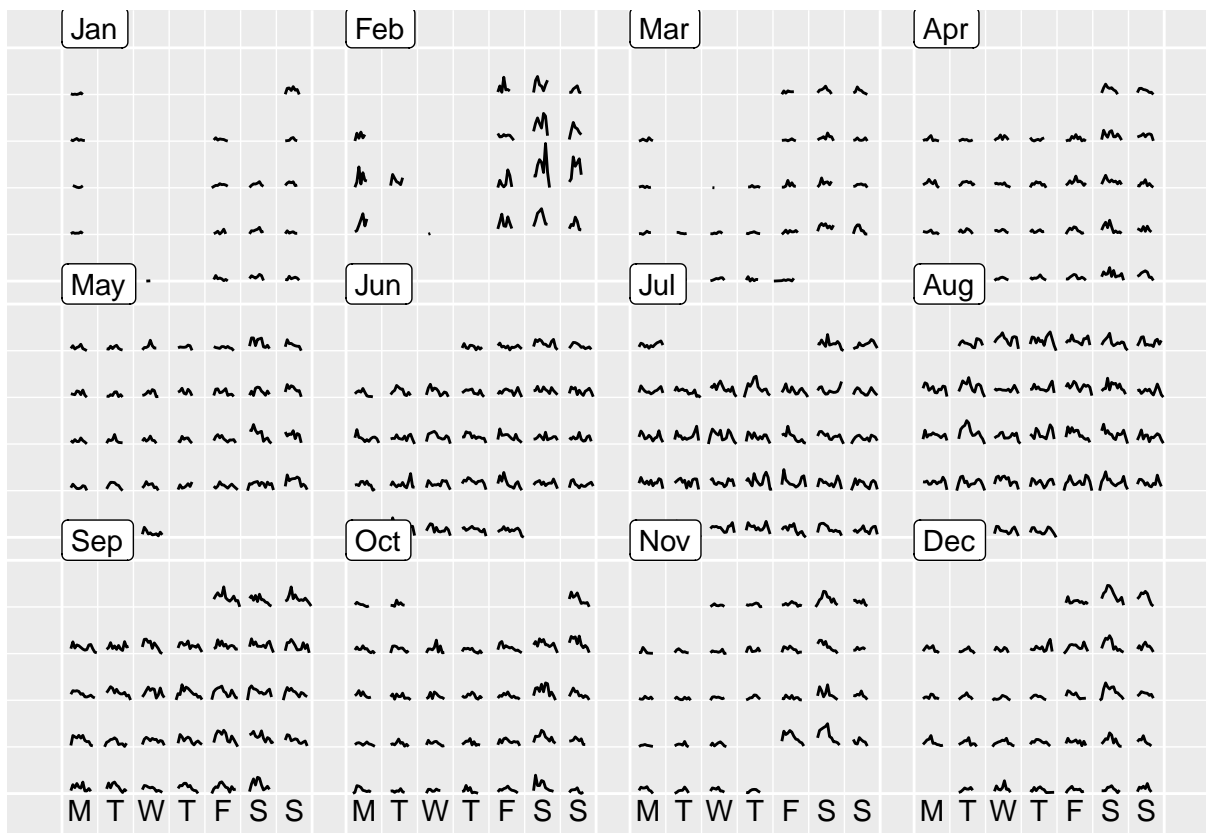


Staffing Analysis

Allocate Analytics

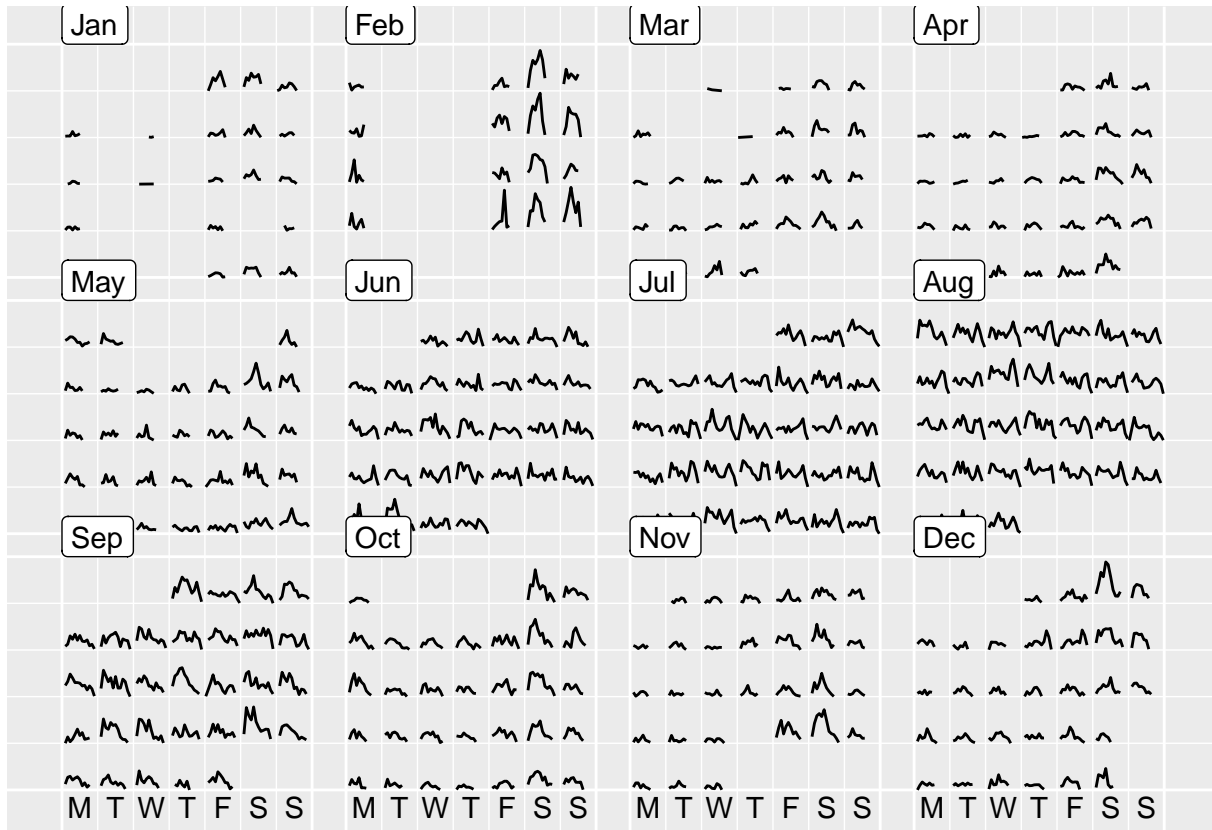
March 16, 2018

```
##      [1]  2  4  7  3 15 18 12 14  8 13
```



Comments and Trends

1 Almost no big days until 2nd weekend of April and then it's Fri, Sat, Sun 2 Weekdays start getting consistently big after Memorial Day 3 Weekdays slow down after Labor Day 4 October weekdays even slower than Sept. 5 Beginning around Halloween Saturday is really the main big weekend day until the week before Xmas and except for Thanksgiving weekend



Off Peak Minimum Staffing

##	Department	Category	Supplier	Item			
## 1	WIDGETS	GREEN WIDGETS	Lean Green Widgets	TREE11349			
## 2	WIDGETS	RED WIDGETS	Red Widgets Unlimited	OAT8315			
## 3	WIDGETS	BLUE WIDGETS	Blue Widgets Smiling	PY2611			
## 4	WIDGETS	GREEN WIDGETS	The Widget is Always Greener	PA2884			
## 5	WIDGETS	RED WIDGETS	The Red Widget Group	MH53676			
## 6	WIDGETS	BLUE WIDGETS	Blue Widget Corp	PY2546			
##		Description	On.Hand	Price	Last.Sold	Qty.Sold	
## 1	WORD ON THE WIRE	BIRDSS - CG	17	2.95	12/13/2017	14:58	1
## 2		FIST PUMPING COUPLE	0	3.49	8/10/2016	19:55	1
## 3		BLOODY RIGHT BDAY	0	7.95	10/16/2017	12:02	1
## 4		DOGS IN BOAT	8	3.25	12/9/2017	15:42	1
## 5		VD-CUPCAKE WITH HEART	0	3.99	2/5/2016	13:20	1
## 6		VD	2	7.95	2/12/2017	11:27	1
##	Sold.Price	Transaction	Date.Sold	Cost	Profit	Profit.Margin	Register
## 1	2.95	1930723	2016-02-01	1.48	1.47	0.4983	3
## 2	3.49	1930724	2016-02-01	1.75	1.74	0.4985	3
## 3	7.95	1930724	2016-02-01	3.98	3.97	0.4993	3
## 4	2.95	1930724	2016-02-01	1.48	1.47	0.4983	3
## 5	3.99	1930724	2016-02-01	2.00	1.99	0.4987	3
## 6	7.95	1930724	2016-02-01	3.98	3.97	0.4993	3
##	Cashier	Year	Month	Dept.By.Year	Categ.By.Year		
## 1	Diana Wunder	2016	2	WIDGETS 2016	GREEN WIDGETS 2016		

```

## 2 Jamie Castagnoli 2016      2 WIDGETS 2016  RED WIDGETS 2016
## 3 Jamie Castagnoli 2016      2 WIDGETS 2016  BLUE WIDGETS 2016
## 4 Jamie Castagnoli 2016      2 WIDGETS 2016  GREEN WIDGETS 2016
## 5 Jamie Castagnoli 2016      2 WIDGETS 2016  RED WIDGETS 2016
## 6 Jamie Castagnoli 2016      2 WIDGETS 2016  BLUE WIDGETS 2016
##      Date.Sold.Round Total.Sales Hour Weekday
## 1 2016-02-01 10:00:00      324  10      2
## 2 2016-02-01 10:00:00      303  10      2
## 3 2016-02-01 10:00:00      285  10      2
## 4 2016-02-01 10:00:00      309  10      2
## 5 2016-02-01 10:00:00      294  10      2
## 6 2016-02-01 10:00:00      351  10      2

##      Department      Category      Supplier      Item
## 9446      ZIDGETS GREEN ZIDGETS Green Zidget Machine      S01
## 9447      ZIDGETS RED ZIDGETS We Are Red Zidgets S55102
## 9448      ZIDGETS BLUE ZIDGETS Blue Like Zidgets S105A
## 9449      ZIDGETS GREEN ZIDGETS Lean Green Zidgets LS
## 9450      ZIDGETS RED ZIDGETS Red Zidgets Unlimited S174
## 9451      ZIDGETS BLUE ZIDGETS Blue Zidgets Smiling S105A
##      Description On.Hand Price      Last.Sold Qty.Sold
## 9446 TURBAN-BLUEGREEN POLISHED      176 12.99 12/14/2017 17:33      1
## 9447      CAMEO SHELL      5 27.95 10/7/2017 18:04      1
## 9448      HARP SHELL-LG      107 2.95 12/14/2017 12:34      1
## 9449      LETTER STAMP      124 0.49 12/7/2017 17:24      2
## 9450      LETTER CONE      22 4.95 11/10/2017 20:15      1
## 9451      HARP SHELL-LG      107 2.95 12/14/2017 12:34      1
##      Sold.Price Transaction Date.Sold Cost Profit Profit.Margin Register
## 9446      12.99      1934907 2016-04-04 4.00 8.99      0.6920      3
## 9447      27.95      1934912 2016-04-04 10.00 17.95      0.6422      7
## 9448      2.95      1934949 2016-04-05 0.50 2.45      0.8305      3
## 9449      0.49      1934998 2016-04-07 0.45 0.04      0.0816      3
## 9450      4.95      1935017 2016-04-07 0.65 4.30      0.8686      3
## 9451      2.95      1935017 2016-04-07 0.50 2.45      0.8305      3
##      Cashier Year Month Dept.By.Year      Categ.By.Year
## 9446      Diana Wunder 2016      4 ZIDGETS 2016 GREEN ZIDGETS 2016
## 9447      Diana Wunder 2016      4 ZIDGETS 2016 RED ZIDGETS 2016
## 9448      Linda Shields 2016      4 ZIDGETS 2016 BLUE ZIDGETS 2016
## 9449      Lori DeSorbo 2016      4 ZIDGETS 2016 GREEN ZIDGETS 2016
## 9450      Justine Hammett 2016      4 ZIDGETS 2016 RED ZIDGETS 2016
## 9451      Justine Hammett 2016      4 ZIDGETS 2016 BLUE ZIDGETS 2016
##      Date.Sold.Round Total.Sales Hour Weekday
## 9446 2016-04-04 14:00:00      107  14      2
## 9447 2016-04-04 15:00:00      109  15      2
## 9448 2016-04-05 16:00:00      124  16      3
## 9449 2016-04-07 09:00:00      97   9      5
## 9450 2016-04-07 15:00:00      81  15      5
## 9451 2016-04-07 15:00:00      99  15      5

## [1] 9
##      Total.Sales
## 1      98
## 2      309
## 3      418
## 4      208

```

```

## 5      281
## 6      87
## [1] "numeric"
## [1] "numeric"
## [1] 10
##   Total.Sales
## 1      4545
## 2      9706
## 3      3153
## 4      4269
## 5      5624
## 6      3647
## [1] "numeric"
## [1] "numeric"
## [1] 11
##   Total.Sales
## 1      12733
## 2      13480
## 3      6106
## 4      8604
## 5      13079
## 6      7434
## [1] "numeric"
## [1] "numeric"
## [1] 12
##   Total.Sales
## 1      6764
## 2      17382
## 3      5193
## 4      8601
## 5      9620
## 6      5263
## [1] "numeric"
## [1] "numeric"
## [1] 13
##   Total.Sales
## 1      5982
## 2      11189
## 3      2586
## 4      4440
## 5      8842
## 6      7497
## [1] "numeric"
## [1] "numeric"
## [1] 14
##   Total.Sales
## 1      6907
## 2      12537
## 3      8621
## 4      7713
## 5      12336
## 6      7240
## [1] "numeric"
## [1] "numeric"

```

```

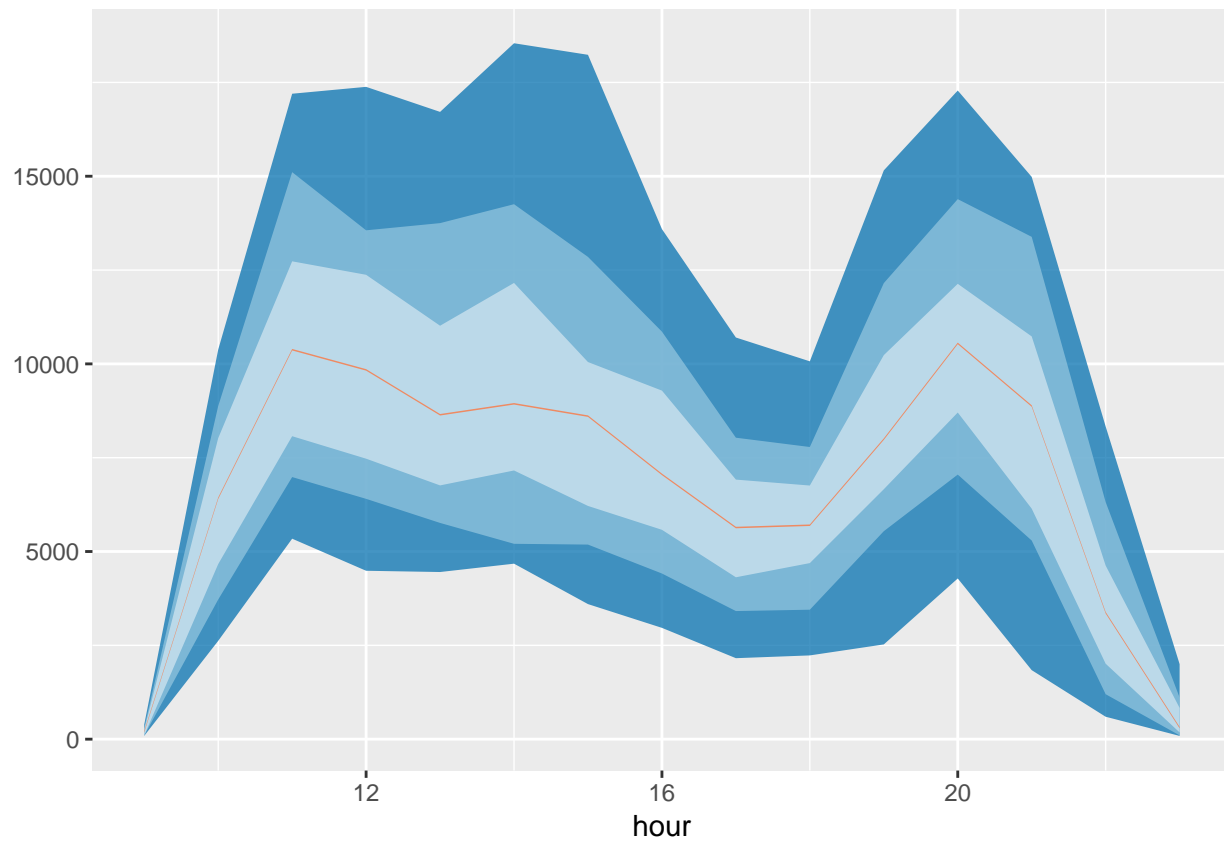
## [1] 15
##   Total.Sales
## 1         3386
## 2        13210
## 3         4737
## 4        10709
## 5         5133
## 6         4295
## [1] "numeric"
## [1] "numeric"
## [1] 16
##   Total.Sales
## 1         4537
## 2        11780
## 3         6142
## 4        11356
## 5         5868
## 6         7056
## [1] "numeric"
## [1] "numeric"
## [1] 17
##   Total.Sales
## 1         6398
## 2        10703
## 3         4613
## 4         8289
## 5         3700
## 6         5394
## [1] "numeric"
## [1] "numeric"
## [1] 18
##   Total.Sales
## 1         2335
## 2         9026
## 3         4657
## 4         3285
## 5         5199
## 6         5499
## [1] "numeric"
## [1] "numeric"
## [1] 19
##   Total.Sales
## 1         5591
## 2         8403
## 3         5158
## 4         7995
## 5         4680
## 6        10644
## [1] "numeric"
## [1] "numeric"
## [1] 20
##   Total.Sales
## 1         6916
## 2        10533

```

```

## 3      9558
## 4     11014
## 5     15584
## 6      9413
## [1] "numeric"
## [1] "numeric"
## [1] 21
##   Total.Sales
## 1      4617
## 2      5238
## 3      6666
## 4      9759
## 5     10374
## 6     10467
## [1] "numeric"
## [1] "numeric"
## [1] 22
##   Total.Sales
## 1      803
## 2     2478
## 3     3902
## 4     3404
## 5     4333
## 6     2611
## [1] "numeric"
## [1] "numeric"
## [1] 23
##   Total.Sales
## 1      576
## 2     1592
## 3      117
## 4       76
## 5      102
## 6      213
## [1] "numeric"
## [1] "numeric"

```



Prophet Trends

```
## Initial log joint probability = -114.798
## Optimization terminated normally:
##   Convergence detected: relative gradient magnitude is below tolerance
```