



Analyzing Traffic Congestion and Effect on Taxi Prices in NYC

By Divya Ganesh

INTRODUCTION

When do NYC taxi passengers pay the most per mile?

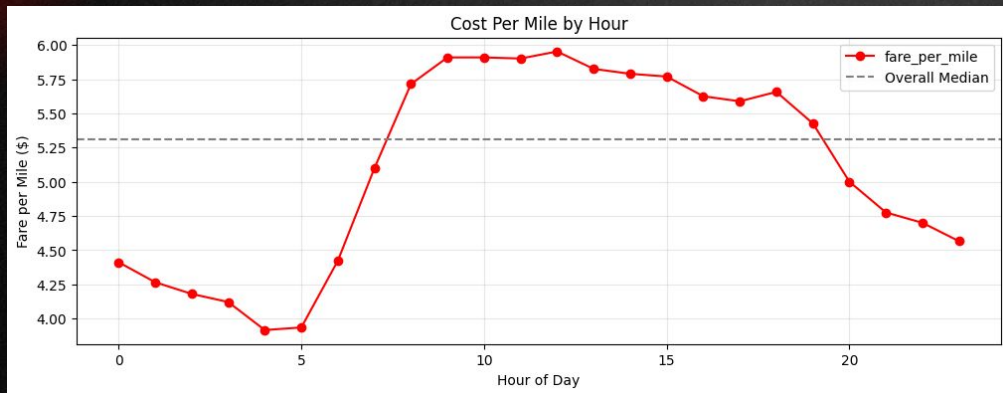
And why does it matter?

Dataset: 100,000 taxi trips (1% random sample) /
12.2 million total trips analyzed

Time period: March 2016



When do NYKers Pay the Most



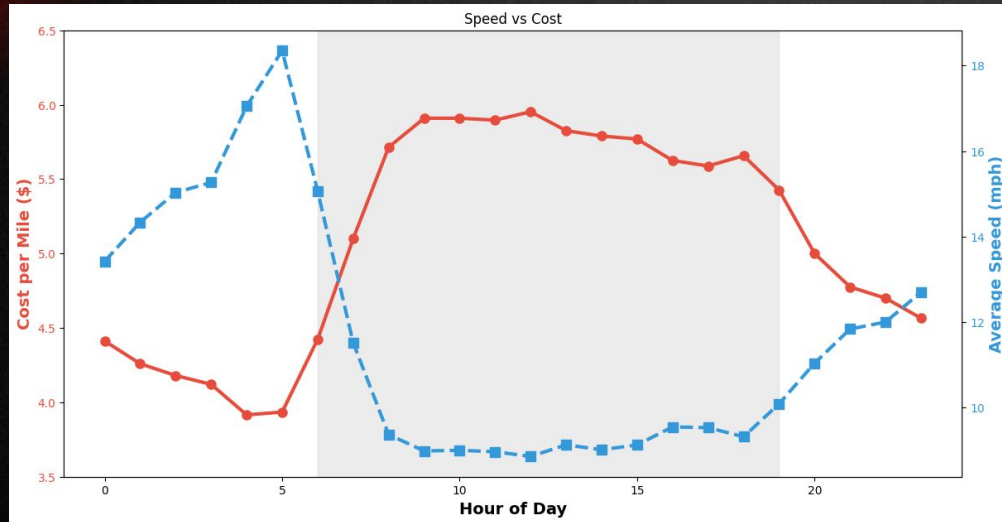
CLEARLY
DURING
RUSH HOUR!

People pay more than median between 8am-7pm, so around working hours. But why?

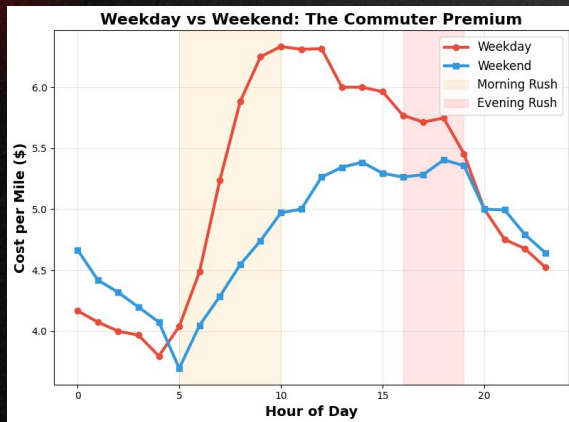
Why are prices so uneven?

Inverse correlation
b/w speed
and cost

Lower the speed, higher the cost! The taxis just let the meter run, likely during high traffic period.

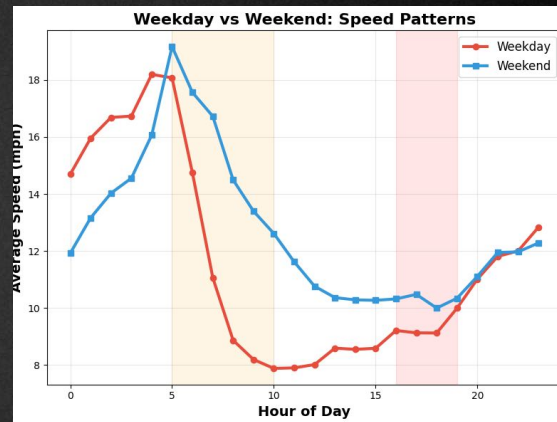


Why are prices so uneven?

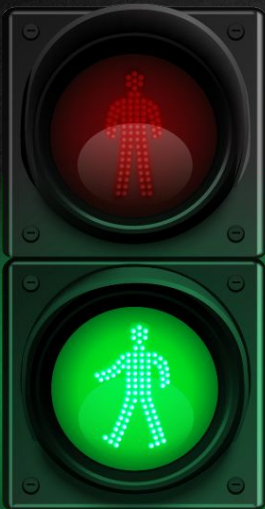


Pattern matches on Weekdays!

On weekdays, we have the general work rush. On weekends, the essential workers. Same patterns observed, pointing more strongly to high volume of traffic then.



Weekday rush hour cost: \$5.39/mile
Weekend same hours cost: \$4.66/mile
Commuter premium: \$0.73/mile
(15.7%)



ALL JUST WASTED MONEY

\$1.06 extra per mile during rush hour
(24% more expensive than off-peak)

\$2,662 annual cost for typical commuter
(5-mile commute \times 2 trips/day \times 250 workdays)

100M+ rush hour taxi trips per year in NYC
 \approx \$100M - \$1B in hidden congestion costs
(varies by trip length assumptions)

What can we do?



Transparent
Receipts



Peak/Off-Peak
Pricing



Congestion
Relief Fund



Taxi Express
Lanes



Smart
Routing
Systems

THANKS!

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