

Metadata

#Author	bushra.faiz@uber.com	SEMANTIC
#Date Modified	05/01/2019	SEMANTIC
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#Title	[Central Ops-Safety] Point in Time Messaging (Kick Off)	SEMANTIC
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Collaborators	tbreeden@uber.com; nick.murphy@uber.com; dirk.reinhardt@uber.com; uber.com	SEMANTIC
Confidentiality	Confidential	SEMANTIC
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Point in Time Messaging

US&C Central Operations, Safety and Standards
03/11/2019

1. PROBLEM DEFINITION

1.1 The Problem

Of all the serious IPC incidences reported in the last 6 months, about 90% falls in the "Sexual Assault" category*1. This number translates to about 12 incidences per 1 million trip.

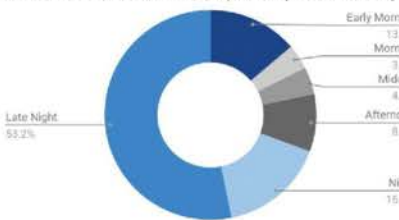
A manual audit of 500 serious incidents in the US & Canada*2 from trips between 3/2017 to 2/2018 shows that

- Almost 65% of the trips associated with audited Sexual Assault report happened from **Friday to Sunday**, compared to 45% of the total trips that happened during that time period.
- Over 80% of these trips happened during "**dark hours**" (**7 pm - 7 am**), compared to 40% of the total trip.
- Of the sexual assault reports audited, 52% included a **suspected intoxicated rider** and 50% have a male driver as an accused party.

Audited Sexual Assault Reports by Day of Week



Audited Sexual Assault Reports by Time of Day



This leads us to believe that sexual assault incidents are more prone to happen at night, mostly on weekends and are perhaps crimes of opportunity, particularly when one person is intoxicated. Data science team has done works that show that nearly half of sexual assaults in the US originated within **50m of a bar** ([Link](#)).

During our on-going discussions with law enforcement officials, they agree on the opportunistic nature of sexual assault incidences. Law enforcement officials highlighted that sometimes all that is needed is a reminder at the right time to deter certain behavior. In the public health space, there are some examples of how messaging at the right time changes people's habit ([Source](#)).

*1 Last 6 months refer to Aug'18 - Jan'19. Source: Safety Dashboard.

*2 US/Can Opportunity Analysis (May'2018): [Link](#)

Hence, we would like to test out the hypothesis that point in time messaging (at night on weekends at nightlife venues) can deter opportunistic behaviors such as the intention of committing a sexual assault and help to make Uber safer for both riders and drivers.

Note: LATAM and India are currently running an experiment around this concept.

1.2 Proposed Approach

- 1. Identify key zones and hours with higher incidences of sexual assaults and sexual misconducts**
 - a. Validate the audit findings and identify specific days of the week and times of the day with higher incidence rates
 - b. Investigate if cities, specifically the ones with high incidence rates, have key zones with higher incidence rates (e.g. *query by latitude and longitude and create heat map with voyager & create new geofences*)
 - c. Validate if DOW & TOD trends hold true for the identified geos
- 2. Identify Cohorts, based on predictive analysis, that are likely to be involved in an opportunistic act**
 - a. Analyze users with IPC record of sexual assault, sexual misconduct or stalking to identify common traits such as rating, gender, previous IPC incident.
- 3. Test if point-in-time messaging can help to deter intention and reduce incidents of sexual assaults**
 - a. Conduct test in four out of the top five cities with high incidences of sexual assault (New York City, Chicago, San Francisco & Miami).
 - b. Send geo-triggered and time-triggered communication to riders and drivers cohort as identified above. For riders, the communication will be triggered when they send a trip request from the geofence (begin trip in geofence), For drivers, the communication will be triggered when they arrive at the begin trip / pick up location (where the begin trip / pick up location is in the geofence).
 - c. Test two different messaging styles (gain-framing vs loss-framing) to identify which is the most effective message.
 - d. Calculate the impact of the proposal by comparing incidence rates per 1M trips between control (driver and rider taking trip at the specific time from the specified geo-zone, but not receiving a message) and treatment groups (driver and rider taking trip at the specific time from the specified geo-zone, receiving a message).

1.3 Goals & Success Metrics

REDACTED - PRIVILEGED

Commented [4]: If the messaging causes extremely high cancellation rate, that would hurt the ETA and other marketplace metrics. So suggest to track cancellation rate as well to minimize negative impacts to marketplace.

KPI	Goal
Reduce incidences of sexual assaults and misconducts in problematic zones	By XX %
Increase Safety Sentiment <ul style="list-style-type: none"> - Uber is Committed to Safety - I Feel Safe Using Uber 	

Commented [5]: Since this is a test, not sure if you need to specify a #. Any significant reduction is a success.

Commented [6]: Also, wondering if we measure driver cancellations due to riders being intoxicated? Ratings for both driver and rider might be another 2ndary indicator given the fact that many, less serious incidents might not even get reported.

Commented [7]: Good point. Another way to use cancellation rate is to see if point in time messaging causes high cancellation rate. If so, is it comfortable to say this is the cost of this project?

2. INITIAL FINDINGS

- DOW & TOD:** We looked at the L12 week's IPC data to identify the days of the week and times of days with the highest incidents of sexual assaults. [Link](#)
 - Friday evening (10:00 pm) - Saturday morning (5:00 am)
 - Saturday evening (9:00 pm) - Sunday morning (5:00 am)
- Cities:** We looked at L12 week's IPC data to identify cities with highest incidences of sexual assaults.
 - Phoenix, Houston, Atlanta, Dallas, and Denver has the highest rate of sexual assault incidents
 - However, if we look at the absolute number of sexual assault incidents, the top cities are NYC, LA, Chi, SF & Miami

Row Labels	Sum of Sexual Assault Incidents	Sum of Trips	Sexual Assault Incidents per 1M trip
Phoenix	151	7615876	19.83
Houston	183	10134516	18.06
Atlanta	237	15953801	14.86
Dallas	170	11636064	14.61
Denver	109	8012808	13.60
San Diego	146	10740922	13.59

Orlando	95	7111387	13.36
Los Angeles	637	51022012	12.48
Miami	352	28547602	12.33
Las Vegas	152	12595451	12.07
Philadelphia	185	16783253	11.02
Chicago	434	40178307	10.80
NYC Suburbs	97	9054626	10.71
Toronto	306	33324242	9.18
New Jersey	217	24708010	8.78
Washington D.C.	269	32443128	8.29
San Francisco	375	46909076	7.99
New York City	663	83680246	7.92
Boston	203	26668559	7.61
Seattle	73	9705667	7.52

Additional analysis required to identify geo-zones and timeframes within these geo-zones with high incidences of sexual assaults.

3. ADDITIONAL INFORMATION

3.2 COMMS & CHANNEL

Will include input from the marketing team on which channel might work best for this campaign. Possible options are SMS, push notification and Helix.

Riders and drivers will receive a message when they request a trip in a specific geo-zone and time.

Example of messages from LATAM:

Loss-Framing: *"For safety, our Community Guidelines prohibit violent attitudes and sexual harassment. This type of acts could make you lose access to your account."*

Gain-Framing: *"Do not take the party to your trip! Treat your driving partner with respect and enjoy the journey."*

Certain behaviors may be more effectively encouraged if they are framed in terms of the benefits versus the costs of that behavior, called gain-framing and loss-framing, respectively. Furthermore, some people seem to respond better when messages are individualized or tailored, to the way they tend to personally process health information.

4. STAKEHOLDERS

	Name	Initial For Signoff
Responsible	Bushra Faiz (Central Ops - Safety)	
Accountable	Danielle Sheridan (Head of Safety & Standards)	
Consulted	Johnathon Purcell (Trust & Safety)	
	Emma Pan (Data Science)	
	Sunny Jeon (Data Science)	
	Daniel Kolta (Safety, Legal)	
	Dirk Reinhardt (Marketing)	
Informed	Name (Team)	
	Name (Team)	
	Name (Team)	

5. TIMELINE

Task	Target date for completion
Finalize queries and analysis	15th March
Send first draft RFC to stakeholders	22nd March
Respond to all comments on RFC and finalize RFC	29th March
Roll out first phase of experiment	15th April

6. LINKS

- Project Plan for El Salvador, Guatemala, and Costa Rica: [Link](#)
- RFC for Mexico: [Link](#)

- e. We will be targeting riders and drivers who have at least one record of a sexual assault, sexual misconduct, physical altercation, stalking, verbal altercation, and similar IPC record against them.