

S-RAD (Safety Risk Assessed Dispatch)

NGRV

**NIGH GOLDENBERG
RASO & VAUGHN**

Trial Exhibit No.

03868

**What if we
optimize
dispatch with
safety in mind?**



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Mission: Prevent serious sexual assault & sexual misconduct (SA/SM)

Serious *(includes critical)*

- Non-Consensual Sexual Penetration (NCSP)
- Attempted Non-Consensual Sexual Penetration
- Non-Consensual Kissing
- Non-Consensual Touching - sexual body part

- Non-Consensual Touching - Non sexual body part
- Severe Sexual Misconduct
- Physical Stalking

Non-Serious

- Sexual Misconduct
 - Comments or Gestures
 - Displaying indecent material
 - Soliciting

"I wanted to numb the pain, **I didn't want to** allow my mind to go there and **think about what happened.**"
- [survivor](#) @RAINN

"He sexually harassed me, and didn't want to let me out of his car. **Please don't ever give me this driver again**"

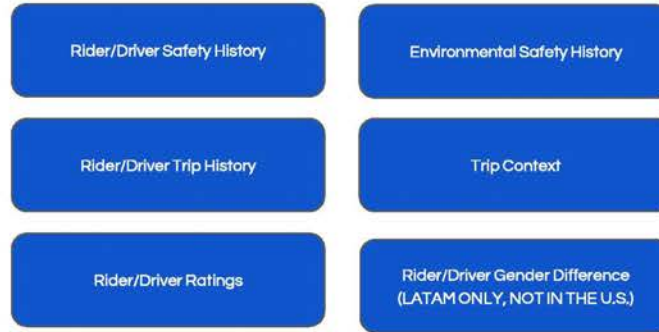
"Driver dropped me off at home.. **I am apprehensive..** ...the entire time of the trip the driver looked at me in the rearview mirror always with jokes like "you can't sleep alone", there's no way you can be alone like that"

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Opportunity to reduce ~15-18% serious SA/SM incidents

S-RAD Model considers various user, environment and trip risk factors

Feature Groups



Note: skip slide [here](#) with feature details

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S-RAD | Model Inputs

- The Safety Risk Assessed Dispatch (S-RAD) model uses up to 40 different signals. Those signals have been put into categorized bundles in **Column A**.
- **Column B** highlights the signals captured in each bundle that are used to analyze and detect a risk score.
- The sample signals listed in **Column B** are used in the Safety Risk Assessed Dispatch (S-RAD) model capture potentially elevated risk.

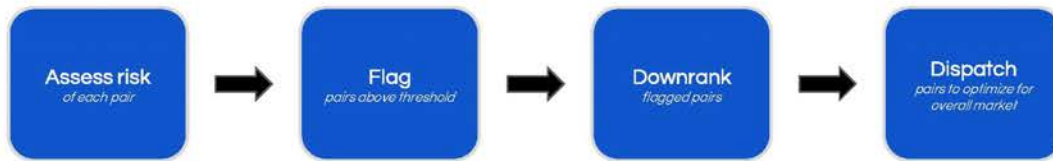
A	B
Bundle	Sample Signals
Location	Number of bars and restaurants, safety tickets reported in that location, cancellations near pick-up point
Driver Prior Feedback	Driver ratings, safety tickets against and/or reported by that driver
Rider Trips	Rider trip counts, trips at night and on weekends, cancellations, Rider cash trip rate
Product	Product type (UberBlack, UberX, UberPool, etc), pool matched
Driver Trips	Driver trip counts, trips at night and on weekends
Rider Prior Feedback	Rider ratings, safety tickets against and/or reported by that rider
Rider Account	Rider sign-up time + location, referrals, device type
Time	Local hour + day of week.
Gender (LATAM only)	Driver gender (from background check) + inferred rider gender

Uber #standforsafety

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Designed for safety, minimizing marketplace impact

S-RAD "downranks" high score pairs, does not block them from being dispatched



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Impact 4 years in the making

Prudence Tests

2018 - 2020

- Fairness impact
- Marketplace impact
- Third party engagement

Safety Test

2021 - 2022

- 6-month test
- Parallel switchbacks - A first at Uber
- 676 rides XPs ran in parallel with SRAD



Covid

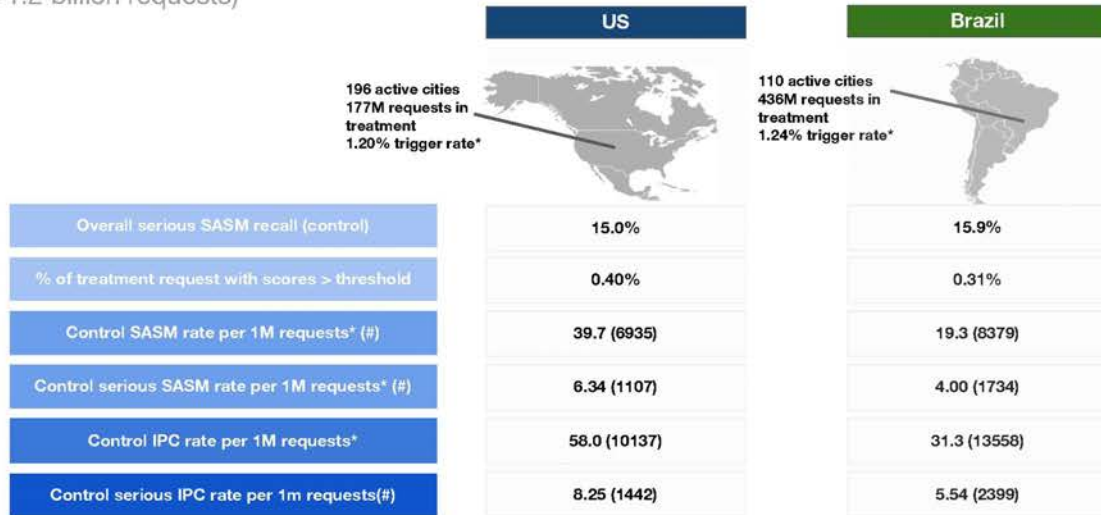
2020-21

- Removed gender in the US Model
- Intervention for low liquidity, high risk situations

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Readout from the first 158 days out of 189 planned

(~1.2 billion requests)



Data as of: 3/15/2022

SOURCE: [Onpage](#), [SRAD](#), [Parallel](#), [Switchback](#), [XP](#), [Marketplace](#), [Interact](#)

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We have been following our TR adjustment strategy throughout the XP, which is +/- 15% target TR at the country-level and +/- 25% target TR for XL cities (for 3 days out of the previous 14)

Note: Brazil's trigger rate was slightly above the agreed threshold (1.24% vs 1.1%) due to Carnival. In the US, the trigger rate was slightly below the agreed threshold (1.20% versus 1.25%).

Robust safety impact trend in Brazil

-8%

Serious SA/SM rate

Est. -480 incidents (FY 2021)

-8%

Serious IPC rate

-5%

Overall IPC rate

No

**disparate impact on riders/drivers
(by gender)**

Caveat: XP is not complete yet. Observations are stat sig at 80% CI. Confidence bands are still wide.

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Brazil: Some impact on C/R & cancel rates

Impact within guardrails; includes carnival holiday period

Dates: 2/7/22 - 3/6/22*

BR (110 cities) Metric	All Day		Day Time		Night time	
	Level effect	Baseline	Level effect	Baseline	Level effect	Baseline
Avg_post_dispatch_eta	2.6	266.3	1.1	260.9	17.7	315.8
p95_post_dispatch_eta	10.0	706.0	3.2	674.6	30.4	796.1
p99_post_dispatch_eta	9.2	912.6	3.5	888.7	25.8	980.4
request_to_begin_sec_avg	2.3	431.0	1.1	424.5	14.2	489.6
completed/requests	-0.17%	76.72%	-0.09%	78.60%	-1.07%	58.99%
unfulfilled/requests	0.05%	7.65%	-	6.67%	0.30%	17.03%
rider_cancellation_perc	0.13%	13.68%	0.07%	12.90%	0.74%	20.99%
driver_cancellation_perc	0.06%	24.68%	-	23.29%	0.37%	37.99%

Observations

- Night time trips represent ~10% of total
- ETA impact driven by night time
- Rider cancels impacted, espec. at night
 - Largest differences seen in XL/L cities at night
- C/R impact greater during holidays
 - Biggest contribution from XL cities (71% of trips in treatment)

“-” means Not Stat-sig
 Level Effect means Absolute Difference
 Day Time: 6AM - 11PM
 Night Time: 11PM - 6AM
 *Marketplace impact was measured from 2/7/22 - 3/6/22. Included Carnival holidays.

Strong safety impact trend in the U.S.

-15%
Serious SA/SM rate
Est. -637 incidents (FY 2021)

-13%
Serious IPC rate

-5%
Overall IPC rate

No
disparate impact on riders/drivers
(by gender or ethnicity)

Caveat: XP is not complete yet. Observations are stat sig at 80% CI. Confidence bands are still wide.

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US: Some impact on C/R & rider cancel rate

Impact within guardrails

Dates: 2/7/22 - 3/6/22

US (196 cities) Metric	All Day		Day Time		Night time	
	Level effect	Baseline	Level effect	Baseline	Level effect	Baseline
Avg_post_dispatch_eta	1.9	431.1	1.5	425.0	3.7	464.1
p95_post_dispatch_eta	3.4	1108.4	2.6	1090.1	5.3	1154.6
p99_post_dispatch_eta	2.9	1310.4	2.1	1304.5	4.8	1325.3
request_to_begin_sec_avg	1.3	558.4	1.0	552.7	3.1	589.4
completed/requests	-0.05%	87.87%	-0.05%	88.81%	-	82.83%
unfulfilled/requests	-	0.65%	-	0.55%	-	1.20%
rider_cancellation_perc	0.06%	9.63%	0.06%	9.06%	0.09%	12.71%
driver_cancellation_perc	-	7.97%	-	7.27%	-	11.75%

"-" means Not Stat-sig
 "Level Effect" means Absolute Difference
 Day Time: 6AM - 11PM
 Night Time: 11PM - 6AM

Observations

- Night time trips represent ~15% of total
- ETAs in line with expectations
- Overall and day time rider cancels increased by 0.06pp
- Overall and day time C/R decreased by 0.05pp
 - Impact primarily driven by XL cities during the day

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Next step: Scale globally

Final XP readout

May 2022

- Evaluate final results
- Align with external advocates
- Reactive Comms readiness

LatAm Full Rollout

Sep 2022

- Evaluate marketplace impact
- Full rollout

US/BR Full Rollout

Jul 2022

- Partial rollout in May
- Finalize holdout strategy
- Full rollout

Global Expansion

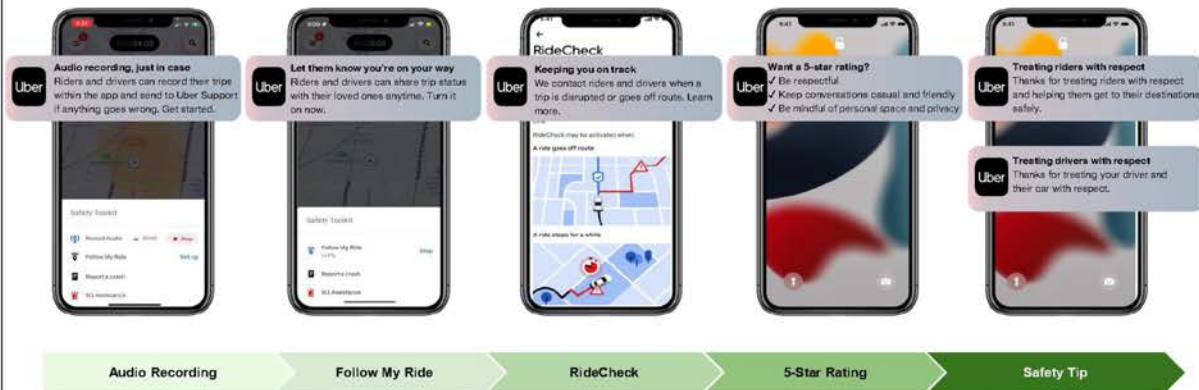
Q4 2022

- ANZ, INSA, EMEA (tentative)

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What's next?

Realtime "Nudges" to influence behavior on high score trips

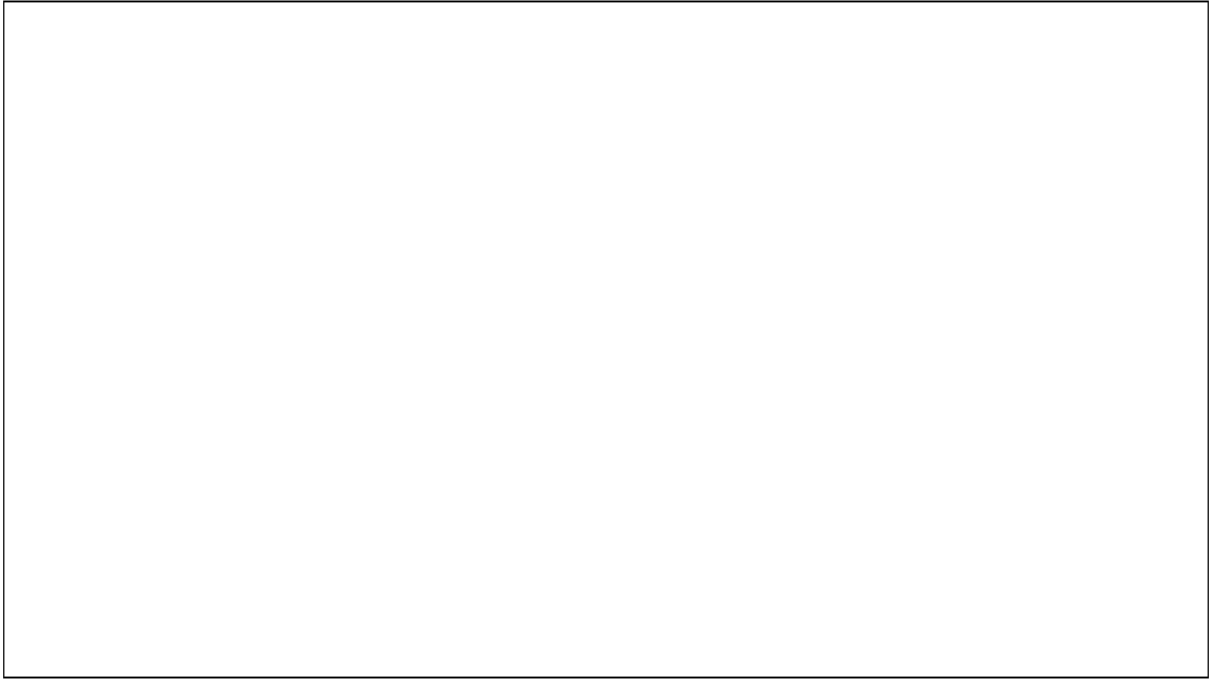


Launched S-RAD Nudges XP in Mexico on April 14th

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Robust safety impact trend in Brazil

Marketplace impact within guardrails

-8%
Serious SA/SM rate

-0.17pp
C/R*
77.72% → 77.55%

-8%
Serious IPC rate

+9.2s
p99 ETA*
912.6s → 921.8s

No
disparate impact on
riders/drivers (by
gender)

-5%
Overall IPC rate

+0.13pp
Rider Cancellation rate*
13.68% → 13.81%

Caveat: XP is not complete yet. Observations are stat sig at 80% CI. Confidence bands are still wide.
* Marketplace impact was measured from 2/7/22 - 3/6/22. Included Carnival holidays.

Strong safety impact trend in the U.S.

Marketplace impact is within guardrails

-15%

Serious SA/SM rate

Est. -680 incidents (FY 2021)

-0.05pp

C/R*

87.87% → 87.82%

-13%

Serious IPC rate

+3.4s

p99 ETA*

1310.4s → 1313.3s

-5%

Overall IPC rate

+0.06pp

Rider Cancellation rate*

9.63% → 9.69%

No
disparate impact on
riders/drivers (by
gender or ethnicity)

Caveat: XP is not complete yet. Observations are stat sig at 80% CI. Confidence bands are still wide.
*Marketplace impact was measured from 2/7/22 - 3/6/22