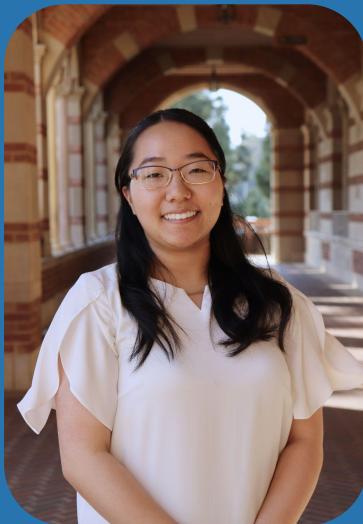


# My name is Yurika and...

“I am **uncomfortable**  
walking alone”



“I am **paranoid** about my  
surroundings”

“I do **not feel safe** in the  
city”

“I am **concerned** about my  
safety”

---

# EyeWalk

A new and innovative smart solution to walking safely

# The Team



George He, MBA 2021  
**CEO**



Matthew Nieva, UCLA 2024  
*Computer Science & Engineering*  
**CTO**



Jason Lee, UCLA 2021  
*Cognitive Science*  
**COO**



Karina Santoso, UCLA 2023  
*Math of Comp & Statistics*  
**CDO**



Hana Lim, UCLA 2021  
*Statistics*  
**Lead UI/UX Developer**



Michelle Lee, UCLA 2022  
*Statistics*  
**Lead Data Scientist**



Yurika Yamada, UCLA 2022  
*Mechanical Engineering & Biochemistry*  
**Lead UI/UX Designer**



Behrang Ahadi  
**Team Advisor**

# 50%

of women say they  
**always or often feel unsafe** walking alone  
at night

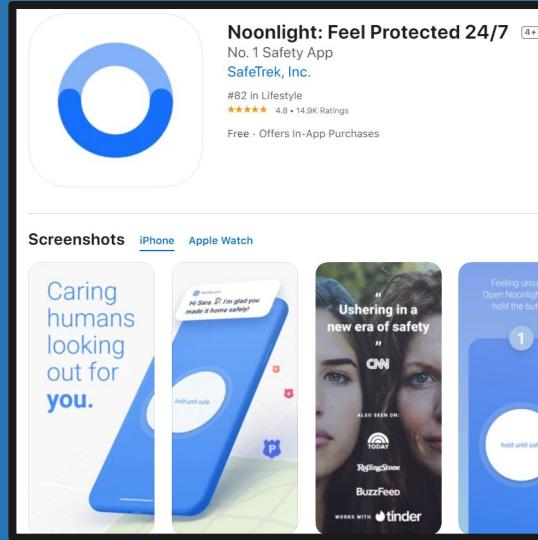
# 37%

of Americans say  
they **would not feel safe walking alone**  
at night

# 74%

of students report  
that **safety is a concern in their daily life**, with 49%  
citing major concerns

- 
1. Journalist, J. B. (2019, March 28). Most women say they regularly take steps to avoid being sexually assaulted. YouGov. <https://today.yougov.com/topics/lifestyle/articles-reports/2019/03/28/women-safety-sexual-assault-awareness>.
  2. Saad, L. (2021, April 3). Nearly 4 in 10 Americans Still Fear Walking Alone at Night. Gallup.com. <https://news.gallup.com/poll/144272/nearly-americans-fear-walking-alone-night.aspx>.
  3. Google. (n.d.). Eyewalk Usability Testing Survey. Google. [https://docs.google.com/forms/d/e/1FAIpQLSdh\\_tHZ5S-U-m\\_nzlDA8QEhlrXBjBacE\\_6b6jQZ\\_e0jK1Zr7A/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSdh_tHZ5S-U-m_nzlDA8QEhlrXBjBacE_6b6jQZ_e0jK1Zr7A/viewform?usp=sf_link).



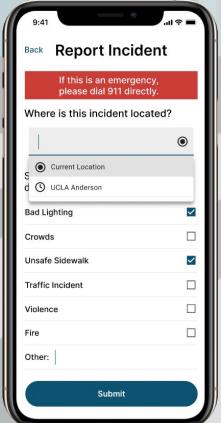
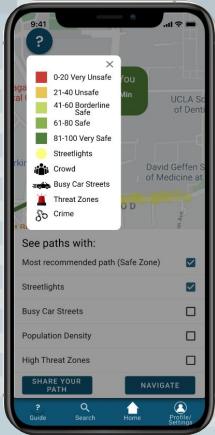
**Most existing solutions only address the symptoms**



Flexible **personalization** with **data privacy built-in** from the start

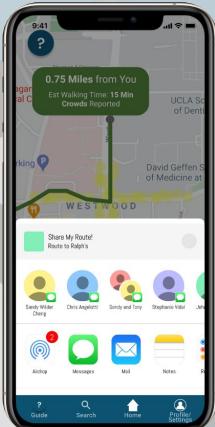


Real-time **SafetyScore** algorithm using **public and crowdsourced data**



Emergency reporting capabilities to authorities and public

Turn-by-turn **walking navigation** with social sharing



# Survey Results

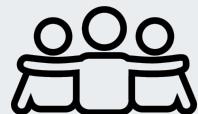
Current safety precautions students take:



Having phone ready  
for emergency calls



Avoiding alleys and  
uncrowded streets



Notifying family/friends  
if walking



Jogging/walking fast  
to a destination



72%

Likely to use a pedestrian safety app



Show Crime Areas



Safety Score



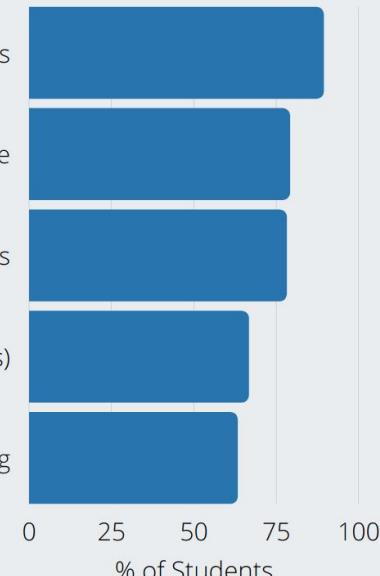
Report Incidents



Alert Contact(s)



Show Street Lighting



# The SafetyScore Criteria

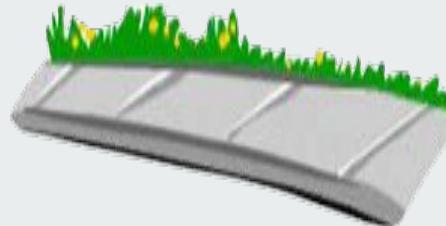


Quality of Street/Sidewalk  
Lighting

Average Crime Rates

Crowd Sourced Incident  
Reports and Activity

# The SafetyScore Calculation

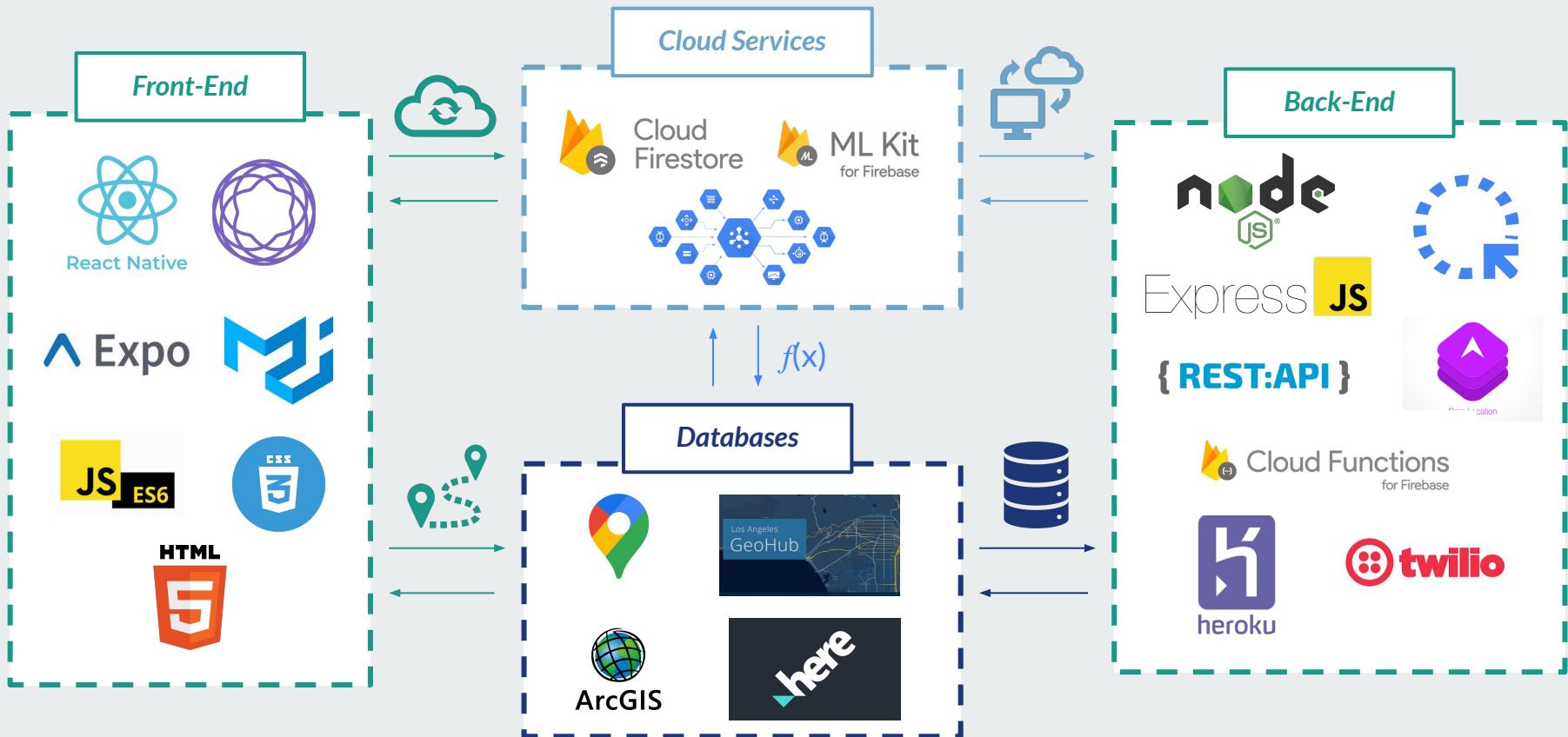


Calculate SafetyScore for a specific location using latitude and longitude

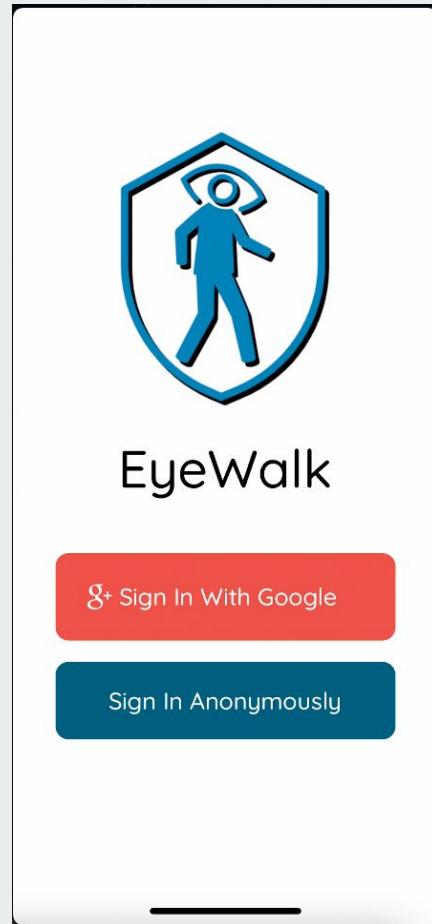
Calculate for a block by averaging SafetyScore of a number of locations along the section

Calculate for a route by averaging SafetyScore of blocks walked, weighted by length

# Our comprehensive cloud-based tech stack



# Demo



# Persona #1 - UCLA Student, Brianna Johnson



**Age:** 19 years old

**Occupation:** Student, part-time student employee at the school library

**Education:** BA in Communications at University of California, Los Angeles

**Location:** Los Angeles, CA

**Marital Status:** Single

**Ethnicity:** White

**Personality:** Spiritual, Bright, Diligent, Detailed

**Scenario:** Brianna needs to find a good resource that will guide her well with the streets and routes for different situations. She wants to use the resource as soon as possible to be safer and be more familiar with the LA area.

	Learn	Search	Convert	Experience
<b>Wants</b>	Familiarity with her environment with focus on safety.	To find the safest path to public libraries	To save preferences	To share positive experience with others.
<b>Does</b>	Launches EyeWalk	Enters destination	Creates an account	Share route with her network
<b>Expects</b>	A map highlighting potential hazards.	Path free of hazards	Privacy	Nothing
<b>Receives</b>	Map highlight safe paths	Safety Score Recommendations	Plain, common sense privacy policy	Questions about efficacy
<b>Feels</b>	Intrigued	Confident	Re-assured	Connected

# Persona #2 - Business Owner, Joseph Williams



**Age:** 32 years old

**Occupation:** Business owner in Westwood

**Education:** BA in business-economics and MS Marketing at Purdue University

**Location:** Westwood, CA

**Marital Status:** Single

**Ethnicity:** African-American

**Personality:** Adventurous, Intuitive, Outgoing, Confident

**Scenario:** Joseph needs to find a good resource that will help him get to know the neighborhood better to be able to build his reputation in the community as a caring business-owner and help his customers feel safe in the community.

	Learn	Search	Convert	Experience
<b>Wants</b>	In-depth knowledge about the neighborhood	To navigate area around business safely at all times	To choose different routings	Improve customers' experience and safety
<b>Does</b>	Launches EyeWalk and other various navigation apps	Try out himself during his morning run and street exploration	Creates an account with EyeWalk	Share EyeWalk with his customers
<b>Expects</b>	Representation of various hazards	Simple interface, prioritize routing	Navigate the area safely	Nothing (satisfied)
<b>Receives</b>	Map highlighting hazards in the area	Different routings	No trouble in navigating area	Positive experience
<b>Feels</b>	Confused	Interested	Confident	Comfortable

# Our B2B business model will initially rely on three diversified revenue streams

## Data Licensing



Sell anonymized, aggregated data to corporate and government entities. As number of users continue to grow, so will the value and the integrity of our data.

- Potential customers include: Google Maps, Doordash, the City of Los Angeles, and ADT Security
- Offer pedestrian-level, real-time data access
- Pricing will start at \$1.00 per user<sup>1</sup>

## Sponsored Posts



Offer local businesses (both large and small) the opportunity to **advertise directly to pedestrians** through suggested destinations.

- Potential customers include: grocery stores, local gyms, restaurants, and small businesses
- Average pricing starts at \$5 per day for small businesses, and \$50 per day for enterprises<sup>2</sup>

## Mobile Advertising



Implement **mobile advertising** with **Google AdMob**. As we integrate sponsored posts, we will phase this out to maintain an optimal user experience.

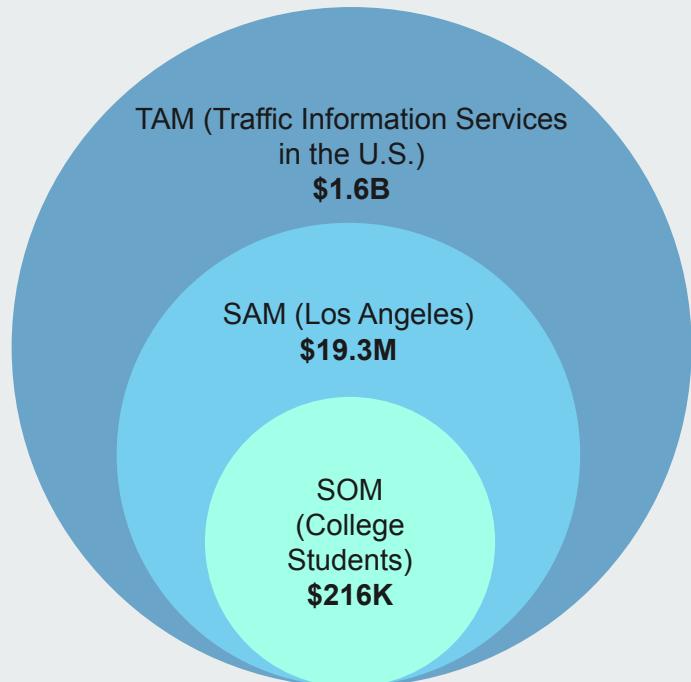
- Mobile advertising metrics will improve as more data is gathered and more users use the app
- This revenue stream to be phased out by Y4 as other revenue streams advance<sup>3</sup>

<sup>1</sup> Compared to Twitter's estimated price of \$2.69 per user. Source: Twitter 10-K Statement (2020)

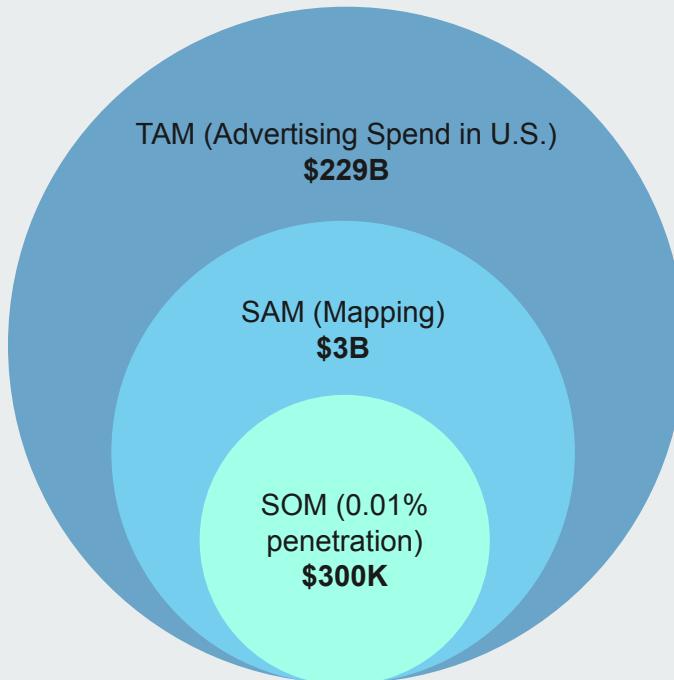
<sup>2</sup> Compared to Waze's estimated pricing of \$2/day (small) and \$100/day (large). Source: <https://bstrategyhub.com/how-does-waze-make-money/>

<sup>3</sup> Revenue estimated with CPC estimated at \$0.44 and CTR of 0.50% to start. Source: Google AdMob estimates

# The dual marketplace has a total TAM of \$230B, with an estimated SOM of \$500K by Year 3

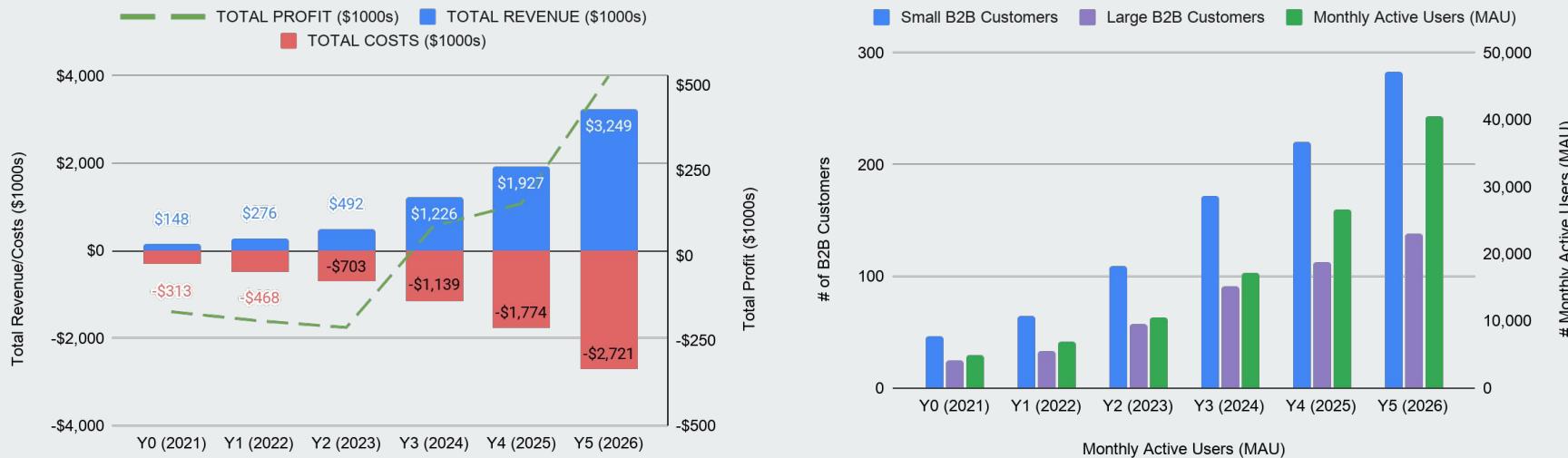


CAGR: 14% from 2020 - 2027



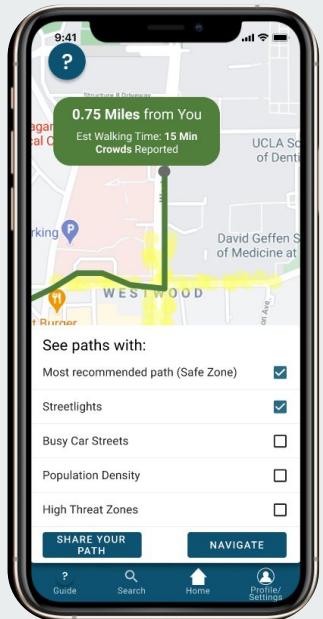
CAGR: 4.1% from 2020 - 2024

# Estimate profitability by Y3 (2024) with 17K MAU

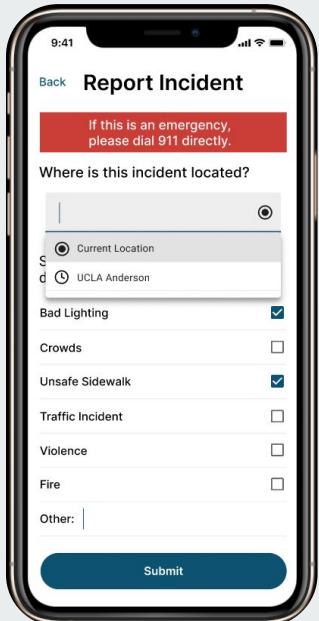


	Y0 (2021)	Y1 (2022)	Y2 (2023)	Y3 (2024)	Y4 (2025)	Y5 (2026)
<b>TOTAL REVENUE (\$1000s)</b>	\$148	\$276	\$492	\$1,226	\$1,927	\$3,249
<b>TOTAL COSTS (\$1000s)</b>	-\$313	-\$468	-\$703	-\$1,139	-\$1,774	-\$2,721
<b>TOTAL PROFIT (\$1000s)</b>	-\$165	-\$191	-\$211	\$88	\$153	\$529

# Next Steps for Development



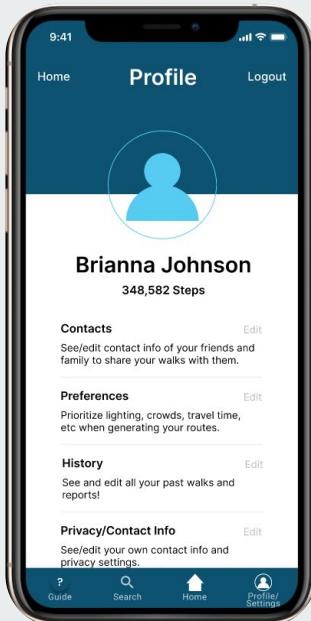
**SafetyScore Integration**  
Priority: **High**



**Incident Reporting**  
Priority: **High**



**Turn-by-Turn Navigation**  
Priority: **Medium**



**Profile Data**  
Priority: **Medium**

## What we need to succeed

\$600,000

to **help walkers feel safe** and **improve pedestrian data**.

This will sustain development through our first **36 months**, after which we will be **sustainably profitable**

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**Thank You!**

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# Appendix

# Who are our customers?

## Business and Government

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Data purchasers are interested because of the **data that EyeWalk can provide** and the unique opportunity to **reach local, easily segmented demographics**.

## Walkers

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Walkers love EyeWalk because it will make their walks **safer, easier, and beneficial to the community**. The social aspects of the app will also **make walking carefree and fun**.

# EyeWalk faces many risks and challenges, but we have several mitigation strategies in place

RISK	MITIGATION	SEVERITY
<p><b>Data Privacy Concerns</b> <i>Sensitive Personal data may be leaked or hacked</i></p>	<ul style="list-style-type: none"><li>- Data is <b>completely anonymized</b> on back-end</li><li>- Anonymous users are <b>automatically deleted</b> from database after session</li><li>- Data is <b>aggregated</b> before use</li></ul>	<b>HIGH</b>
<p><b>High Competition</b> <i>Multiple new competitors may enter the market</i></p>	<ul style="list-style-type: none"><li>- Leverage <b>network effect</b>; the more users, the harder it is for competitors to enter</li><li>- Enhance <b>proprietary SafetyScore</b> calculation</li></ul>	<b>MED</b>
<p><b>Low User Demand</b> <i>User demand may not be as high as predicted</i></p>	<ul style="list-style-type: none"><li>- Coordinate directly with <b>university safety</b> departments</li><li>- <b>Embed safety features</b> into existing apps</li></ul>	<b>MED</b>
<p><b>Data Provider Terms</b> <i>Data providers may be unwilling to share their data to be used</i></p>	<ul style="list-style-type: none"><li>- Rely on <b>publicly available data</b>, supplemented with <b>crowdsourcing</b></li><li>- Forge <b>strategic partnerships</b> to exchange data with providers</li></ul>	<b>LOW</b>

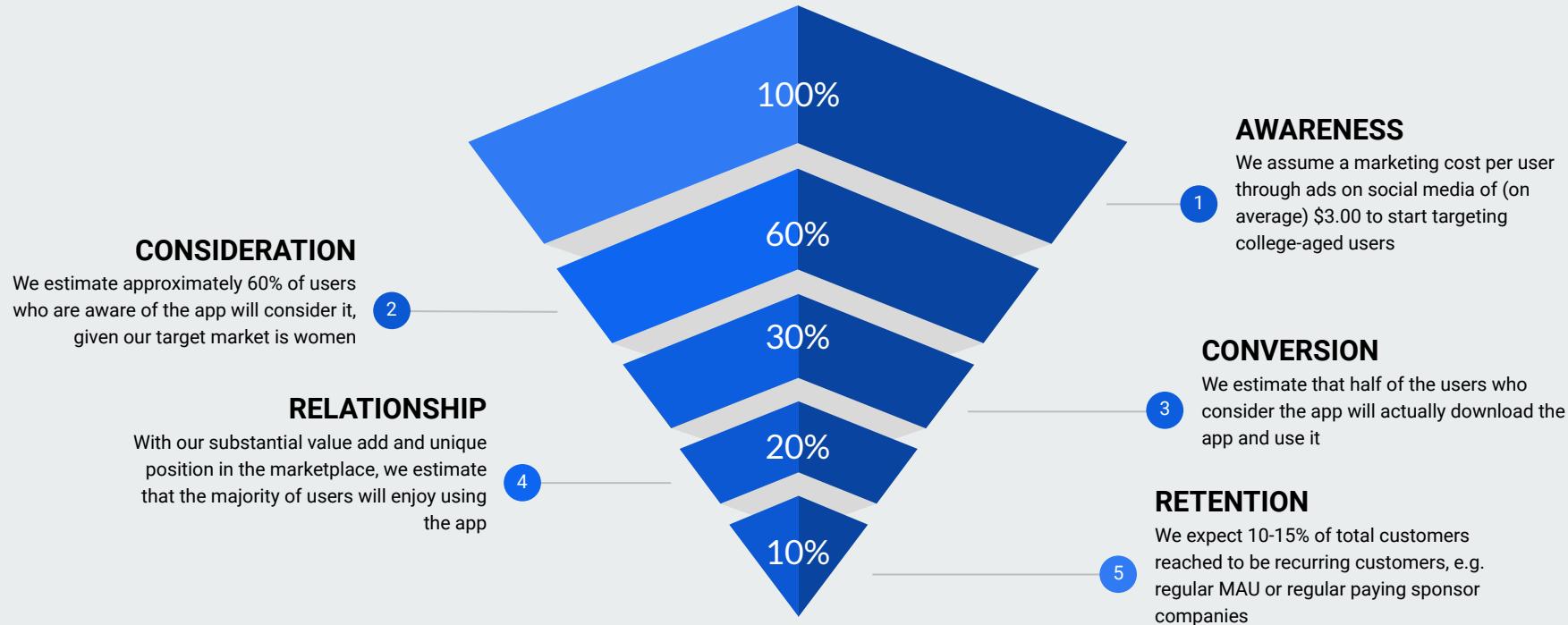
# Costs Projection

Total Costs							
	Data Access	\$500	\$700	\$1,053	\$1,710	\$2,657	\$4,043
	<i>GeoHub Dataset</i>	\$500	\$700	\$1,053	\$1,710	\$2,657	\$4,043
	<b>Google Maps</b>	<b>\$106,200</b>	<b>\$176,558</b>	<b>\$285,286</b>	<b>\$508,353</b>	<b>\$846,601</b>	<b>\$1,352,594</b>
	<i>Autocomplete Info</i>	\$61,200	\$101,745	\$164,402	\$292,949	\$487,872	\$779,461
	<i>Geolocation</i>	\$18,000	\$29,925	\$48,354	\$86,162	\$143,492	\$229,253
	<i>Direction/Routing</i>	\$27,000	\$44,888	\$72,530	\$129,242	\$215,238	\$343,880
	<b>Hosting</b>	<b>\$12,400</b>	<b>\$20,614</b>	<b>\$33,309</b>	<b>\$59,354</b>	<b>\$98,847</b>	<b>\$157,925</b>
	<i>GCP Billing</i>	\$11,741	\$19,519	\$31,539	\$56,200	\$93,595	\$149,534
	<i>Firebase</i>	\$659	\$1,095	\$1,770	\$3,154	\$5,252	\$8,391
	<b>Miscellaneous</b>	<b>\$28,800</b>	<b>\$47,880</b>	<b>\$77,366</b>	<b>\$137,858</b>	<b>\$229,587</b>	<b>\$366,805</b>
	<i>Twilio Services</i>	\$28,800	\$47,880	\$77,366	\$137,858	\$229,587	\$366,805
	<b>Marketing and Business Dev</b>	<b>\$165,000</b>	<b>\$222,200</b>	<b>\$306,206</b>	<b>\$431,261</b>	<b>\$596,445</b>	<b>\$839,188</b>
	<i>Marketing Costs</i>	\$60,000	\$81,000	\$109,350	\$142,155	\$184,802	\$240,242
	<i>Large B2B Acquisition</i>	\$50,000	\$62,500	\$78,125	\$97,656	\$112,305	\$129,150
	<i>Small B2B Acquisition</i>	\$25,000	\$32,500	\$42,250	\$54,925	\$65,910	\$79,092
	<i>R&amp;D Costs</i>	\$30,000	\$46,200	\$76,481	\$136,525	\$233,429	\$390,703
<b>TOTAL COSTS SUBTOTAL</b>		<b>\$312,900</b>	<b>\$467,952</b>	<b>\$703,220</b>	<b>\$1,138,536</b>	<b>\$1,774,137</b>	<b>\$2,720,554</b>

# Revenue Projection

Revenue							
	Data Licensing	\$5,000	\$8,750	\$13,168	\$25,643	\$46,502	\$70,757
	Data Licensing Per User Per Year	\$1.00	\$1.25	\$1.25	\$1.50	\$1.75	\$1.75
	AdMob Advertising	\$4,015	\$10,539	\$31,145	\$73,381	\$0	\$0
	Average CTR	0.50%	0.60%	0.60%	0.70%	We will phase out Mobile Ads as Sponsored Ads grow	
	Average CPC	\$0.44	\$0.50	\$0.75	\$0.80		
	Small Corporate Customers	\$14,063	\$26,941	\$45,667	\$120,148	\$263,640	\$480,201
	# Customers	47	64	109	172	220	282
	Avg Cost Per Day	\$5.00	\$7.00	\$7.00	\$10.00	\$15.00	\$20.00
	Avg # days Advertising	60	60	60	70	80	85
	Large Corporate Customers	\$125,000	\$230,263	\$402,114	\$1,007,080	\$1,617,188	\$2,698,321
	# Customers	25	33	57	92	112	138
	Avg Cost Per Day	\$50	\$70	\$70	\$100	\$120	\$150
	Avg # days Advertising	100	100	100	110	120	130
	TOTAL REVENUE SUBTOTAL	\$148,078	\$276,493	\$492,095	\$1,226,253	\$1,927,329	\$3,249,279

# Marketing Funnel Assumptions



# EyeWalk is a better solution than most existing personal safety competitors

Proactive



Simple algorithm

Complex algorithm



Reactive

# SafetyScore Calculation

Light:

- 1) Find number of streetlights within 300 feet and their distance from user location
- 2) Add these up and see how far it deviates from mean
- 3) Probability that it is less than this is our number

Crime:

- 1) Find number of crime reports in the past year within 700 feet and their distance from user location
- 2) Add these up and see how far it deviates from mean
- 3) Probability that it is less than this is our number

User reports/activity:

- 1) Find number of users and reports within 300 feet and their distance from user location
- 2) Add these up and see how far it deviates from mean
- 3) Probability that it is less than this is our number

# SafetyScore Calculation cont.

- Do this for every 200 ft area on a block then average them to get block score for each category
- Do this for every block on the route and average them weighted by block length to get route score for each category

- If we consider 4 different paths....

$$\begin{bmatrix} l_1 & c_1 & u_1 \\ l_2 & c_2 & u_2 \\ l_3 & c_3 & u_3 \\ l_4 & c_4 & u_4 \end{bmatrix} \begin{bmatrix} w_1 \\ w_2 \\ w_3 \end{bmatrix} = \begin{bmatrix} s_1 \\ s_2 \\ s_3 \\ s_4 \end{bmatrix}$$

- We will recommend the user the route with the highest  $s$  score

Figma Prototype Demo [Here](#)

