

HomeSafe

Team 99

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Executive Summary

HomeSafe is an innovative mobile application designed to enhance safety, convenience, and social connections for college students during travel. The app connects users heading to the same destination at similar times, offering group travel options to mitigate safety concerns. Core features include GPS integration, user-friendly interface, vetting and safety checks, real-time communication through chat, and integration with campus safety services. By addressing current gaps in safety resources like Penn Walk, HomeSafe offers a streamlined, efficient, and customizable solution for students traveling across campus or to city locations.

Value Proposition

HomeSafe empowers students by providing:

1. **Safety:** Users travel in vetted groups of other students, reducing risks associated with walking or commuting alone at night or in unfamiliar areas.
2. **Convenience:** Features like live location sharing, future trip scheduling, and recommendations based on degrees-of-connection simplify the process of finding travel companions.
3. **Cost Efficiency:** Enables users to organize groups easily to travel using group ride-sharing services, making trips more affordable.
4. **Social Connection:** The app fosters interactions by connecting users that are interested and comfortable with traveling with other students.

Stakeholders

Our primary users and stakeholders are college students, specifically at Penn for the prototype we are building. They will use the app to find and coordinate travel companions, particularly for nighttime trips, walks across campus, or ridesharing to city destinations. As we develop iterations of our product, we plan to continue to conduct user research with Penn students to ensure we are meeting their needs.

Another major stakeholder is campus safety departments, such as Penn Safety. We plan to integrate their current services (e.g. walking escorts, emergency assistance) into the HomeSafe app to provide students with enhanced security and better utilization of existing resources. Our faculty advisor, Kathleen Shields, is the Vice President for the Division of Public Safety at Penn. Under her guidance, we are committed to identifying integration opportunities while complying with the quality control and safety requirements of Penn Safety. One such novel opportunity we were able to identify was utilizing Penn security officers' high-traffic areas, and including them in our path to make sure users feel safe via a security check-in. This would be something we plan to integrate into our path-finding algorithm.

One potential stakeholder we could collaborate with are university administrators. By leveraging permissioned data generated from our app, they can identify high-risk areas and times for student travel, enabling them to implement targeted safety measures and policies. It is important to note that in this case, all data shared with administrators will be anonymized and used only with user consent, ensuring privacy and compliance with ethical data practices. Administrators can use HomeSafe to supplement their existing safety initiatives, ensuring that the app is aligned with their goals of fostering a secure campus environment. Through this

collaboration, we aim to create a product that not only addresses immediate safety concerns but also informs long-term improvements to campus safety infrastructure.

Lastly, extreme users, such as individuals with mobility challenges or those requiring heightened safety measures, are critical stakeholders for HomeSafe. These users may benefit from personalized features, such as tailored travel recommendations or accessible transit options. Our team recognizes that addressing the needs of extreme users not only improves inclusivity but also highlights the app's versatility. To this end, we are prioritizing user research to better understand the unique challenges faced by these individuals and ensuring that HomeSafe is designed to accommodate diverse needs.

Market Research

Our team conducted an initial survey to gain market insights for HomeSafe. This was delivered via a Google Form to current Penn students, with 53 responses. 47% of the respondents were seniors, followed by 24.5% juniors, 15.1% sophomores, 9.4% freshmen, and the remaining being graduate students. 83% of respondents identified as women, 15.1% identified as men, and 1.9% identified as non-binary. Based on the results, we had several key findings, most of which were confirmed as reflective of larger student opinion during our meeting with Penn Safety.

Safety concerns among students vary significantly between daytime and nighttime travel. On a scale of 1-10, the average concern level for daytime travel was 3.94, whereas nighttime travel had an elevated average of 7.72. These findings highlight the heightened anxiety students feel during the night and the critical need for a tool like HomeSafe to provide reassurance and safer travel options during these hours.

Despite the availability of services like Penn Public Safety escorts, 81.1% of respondents reported that they have never used them, with the highest frequency of use coming from 3.7% respondents using them once a week. Key reasons include inconvenience, awkwardness, and delays. One respondent noted, "the process is too complicated," while another shared, "it's kind of awkward because I wasn't sure if I should talk to my escort, and also didn't know my escort." These insights emphasize the need for a more user-friendly and flexible solution like HomeSafe, which eliminates these barriers to usage.

Survey participants identified specific features that would make HomeSafe both practical and appealing. The most requested features include vetting and safety checks to ensure trustworthy companions (60.4%), GPS/Map integration for real-time location sharing (47.2%), and a user-friendly interface (41.5%). These preferences indicate a strong demand for features that enhance safety and usability, which our team plans to prioritize during development. Students also described several scenarios where HomeSafe would be particularly useful, such as traveling across campus late at night, exploring areas like Center City, or sharing rides to the airport. One respondent explained they would use HomeSafe to "split Uber costs," reflecting the app's potential to provide financial benefits alongside safety. A few respondents also shared they might use such an app "to go on a walk for fun and [want] someone to talk with" or to "make new friends in Philly," expanding HomeSafe's potential for fostering social connections.

Customer Segment

Our primary customer segment consists of college students who frequently travel on or near their campus—initially focused on Penn students as a pilot group. These users often face concerns about safety, especially during nighttime travel, and currently lack a convenient,

socially oriented option that addresses both their safety and their desire for community connections. Within this demographic, we identify several sub-segments:

- *Students walking on campus:* This includes students who walk between classes, dormitories, libraries, or social events, especially during late hours. They value solutions that feel natural and fit seamlessly into their daily routines.
- *Students walking towards the city/outside campus:* Students visiting nearby neighborhoods, entertainment venues, or traveling to city centers want reassurance when navigating less-familiar parts of town, whether on foot or by rideshare.
- *Students who are financially conscious:* Some students may primarily be drawn to HomeSafe for financial reasons, using the platform to coordinate group rides and split transportation costs, thereby increasing affordability. The most visible use-case is coordinating trips to and from the airport back to Penn, which can be costly if each student were to pay individually for their own Uber/Lyft.

Competition

HomeSafe will operate in a landscape where traditional campus safety escorts, ridesharing apps, and other group-travel solutions already exist. However, these alternatives often fail to address the holistic needs of students.

Currently, Penn offers a walking escort as their main safety service. While these services provide official escorts for traveling safely, they can be inconvenient, suffer from limited personnel availability, and feel socially awkward or impersonal. HomeSafe, by contrast, enables flexible, on-demand group coordination and reduces awkwardness through peer-based connections.

The second group of competitors are ridesharing platforms (Uber, Lyft). Students already use these platforms for off-campus travel, but rideshares alone do not solve the problem of feeling safe while walking to pick up points. Moreover, inefficiencies currently exist when multiple people are traveling via rideshare to the same destination (coordination on HomeSafe could prove cheaper – imagine the many Ubers that are called to go to 30th St. Station). HomeSafe complements these services by facilitating group travel arrangements and splitting fares, thereby providing a more holistic safety and financial solution.

Finally, peer networks and ad-hoc group chats exist for coordinating travel. However, these methods are disorganized, lack robust safety vetting, and do not integrate essential campus safety resources. Moreover, these group chats only limit the scope of peers you travel with to those you already know, who may not be traveling at the same time as you. HomeSafe streamlines and centralizes these efforts, offering a vetted environment enhanced with GPS-based pathfinding, security check-ins, and user-friendly scheduling.

Intellectual Property

There are no intellectual properties to be claimed, although we are looking into taking inspiration from the system Kathleen Shields Anderson and her team is building for the Division of Public Safety at Penn.

Cost Model

To ensure the successful development, launch, and maintenance of HomeSafe, we have identified the following cost components:

1. Development Costs

- App Development (MVP & Iterations): \$50,000 - \$100,000
 - Frontend & backend development
 - GPS & pathfinding integration
 - UI/UX design and testing
- Third-party API Integration: \$10,000 - \$20,000
 - Google Maps API for GPS tracking
 - Messaging services (Twilio, Firebase, etc.)
- Security and Vetting System: \$15,000 - \$30,000
 - User authentication and verification
 - Background checks (if implemented)
- Legal & Compliance: \$5,000 - \$15,000
 - Privacy policy and data security compliance
 - Contractual agreements with campus safety partners

2. Operational Costs

- Cloud Hosting & Maintenance: \$5,000 - \$15,000 per year
- Customer Support & Moderation: \$10,000 - \$25,000 per year
- Marketing & User Acquisition: \$10,000 - \$50,000 per year
- Operational Team Salaries: \$50,000 - \$150,000 per year

3. Additional Costs

- User Research & Testing: \$5,000 - \$15,000 per year
- University Partnerships & Integration: \$10,000 - \$20,000 per year
- Contingency & Miscellaneous Expenses: \$5,000 - \$20,000 per year

Total Estimated Cost:

- Year 1 (Development & Launch): \$150,000 - \$300,000
- Ongoing Annual Costs: \$80,000 - \$200,000

Revenue Model

HomeSafe employs a freemium model with premium features, offering a free basic service that allows users to coordinate group travel for safety. Additionally, a premium subscription, priced between \$2.99 and \$7.99 per month, provides users with advanced vetting features, smart route optimization, exclusive travel alerts and analytics, and preferred matchmaking for enhanced travel security and convenience. HomeSafe's growth strategy begins with the Penn community, where we estimate a student population of about 20,000. For our first year, our goal is to achieve a 40% adoption rate in the early phase, translating to roughly 8,000 active users. We anticipate that 15–20% of these users will opt for our premium subscription service, which we estimate to be around \$50,000 annually.

Another key revenue stream comes from university and campus safety partnerships, where HomeSafe can establish subscription-based or licensing agreements with universities, ranging from \$10,000 to \$50,000 per year per institution. These partnerships would allow seamless integration with existing campus safety services, further enhancing student security.

Advertising and sponsorships present additional revenue opportunities. HomeSafe can generate income through targeted advertising, allowing local businesses to promote their services to students for \$5,000 to \$30,000 per year per advertiser. Additionally, sponsored safety initiatives could involve partnerships with Uber, Lyft, or local transport services, offering discounted rides while providing HomeSafe with a sponsorship revenue stream.

HomeSafe can also earn revenue from rideshare coordination by charging a small service fee or earning commissions through affiliate programs, typically 5-10% per ride, when users book rides through the platform.

Finally, data analytics offers another revenue opportunity. By providing anonymized and ethical data insights to universities and municipalities, HomeSafe can help identify high-risk travel areas and improve safety initiatives. Institutions can access these insights through a subscription model, priced between \$5,000 and \$20,000 per year per client.

By leveraging these diversified revenue streams, HomeSafe ensures financial sustainability while prioritizing user safety and experience. The profitability analysis for HomeSafe indicates that the break-even point is expected to be reached in Year 2 or early Year 3, assuming steady user adoption and successful university partnerships. The platform is designed for long-term scalability, with plans to expand to additional universities, establish rideshare partnerships, and integrate AI-powered travel safety features. These strategic initiatives will not only enhance HomeSafe's service offerings but also drive revenue growth, ensuring financial sustainability while continuously improving user safety and convenience.

Revenue Projection (Year 1 - Year 3)

Revenue Source	Year 1	Year 2	Year 3
Premium Subscriptions	\$50,000	\$150,000	\$300,000
University Partnerships	\$30,000	\$100,000	\$200,000
Total Revenue	\$120,000	\$355,000	\$700,000