



ARTEMIS

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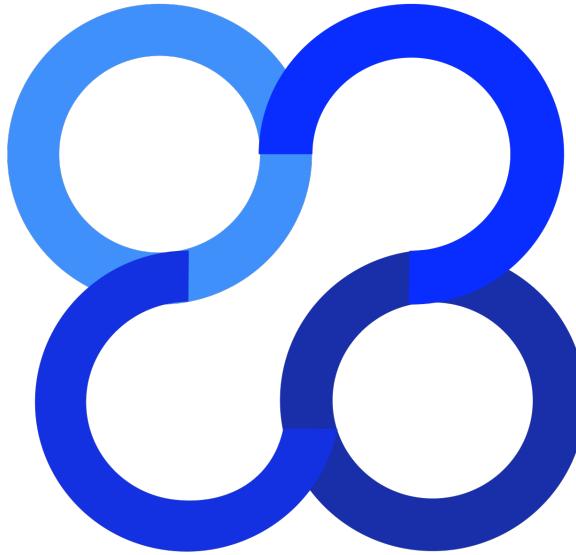
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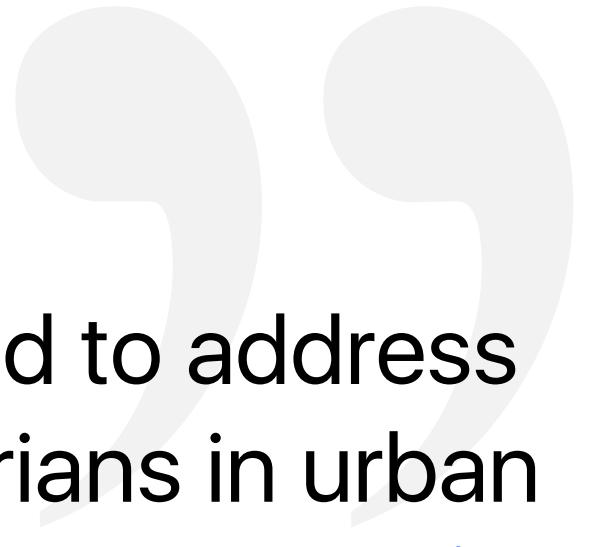


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ARTEMIS

Artemis.mobility: A Pedestrian-Centric Solution
for Safer, Accessible Cities

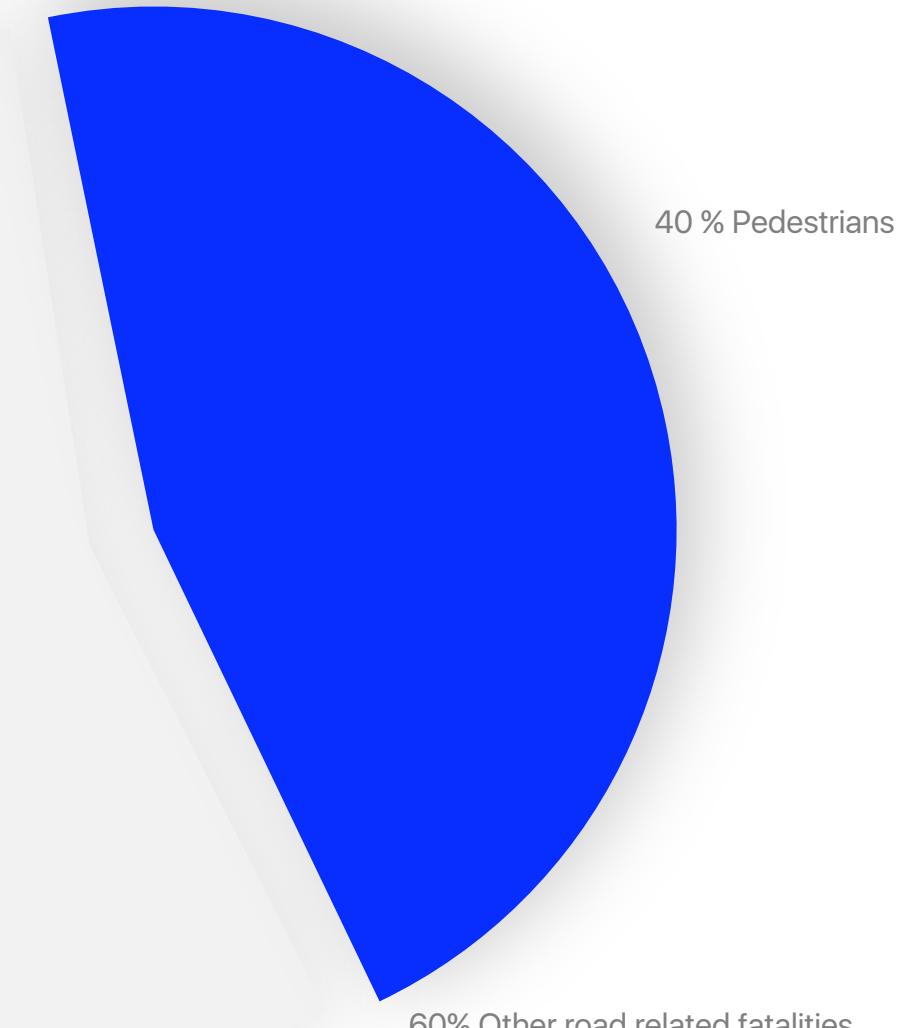


Artemis.mobility stem from a critical need to address the growing challenges faced by pedestrians in urban areas, which are often overshadowed by **car-centric infrastructure development** (Gipson, 2023).

 Problem Statement

40%

of all road fatalities in 2023
involved pedestrians
(WHO)



Source: DTI, 2022





Unsafe and Obstructed Sidewalks

Pedestrian pathways are often blocked by debris, parked vehicles, or construction, creating unsafe conditions and hindering mobility for pedestrians, particularly those with disabilities.



Car-centric urban planning

Urban spaces are typically designed to prioritize vehicles, leaving pedestrians with insufficient, poorly designed infrastructure, resulting in unsafe crossings and a lack of accessibility.



Underreporting of incidents

Accidents, hazards, and safety concerns are frequently underreported due to limited reporting mechanisms, making it difficult to address and prevent future incidents in pedestrian spaces.



Limited Data for Urban Planning

There is a shortage of accurate, real-time data on pedestrian conditions, preventing urban planners from making informed decisions on improving walkability and safety.



Environmental and health concerns

Car dependency leads to increased pollution and congestion, impacting both environmental sustainability and the physical health of urban populations, including respiratory issues and decreased physical activity.



Lack of Community Engagement

Without effective channels for community input, citizens often feel disconnected from urban planning decisions, resulting in a lack of collaborative efforts to enhance walkability and address pedestrian safety issues.



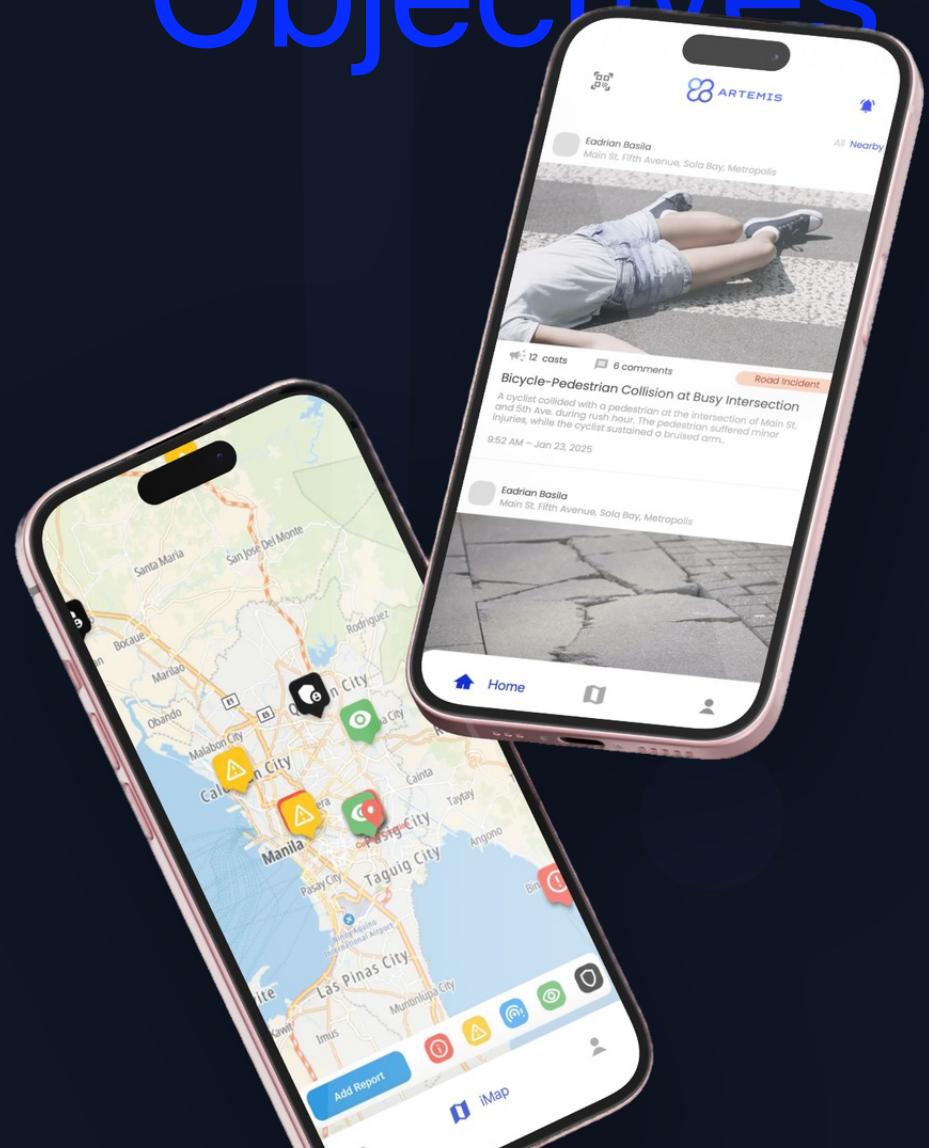
Problem Statement

Solution Objectives

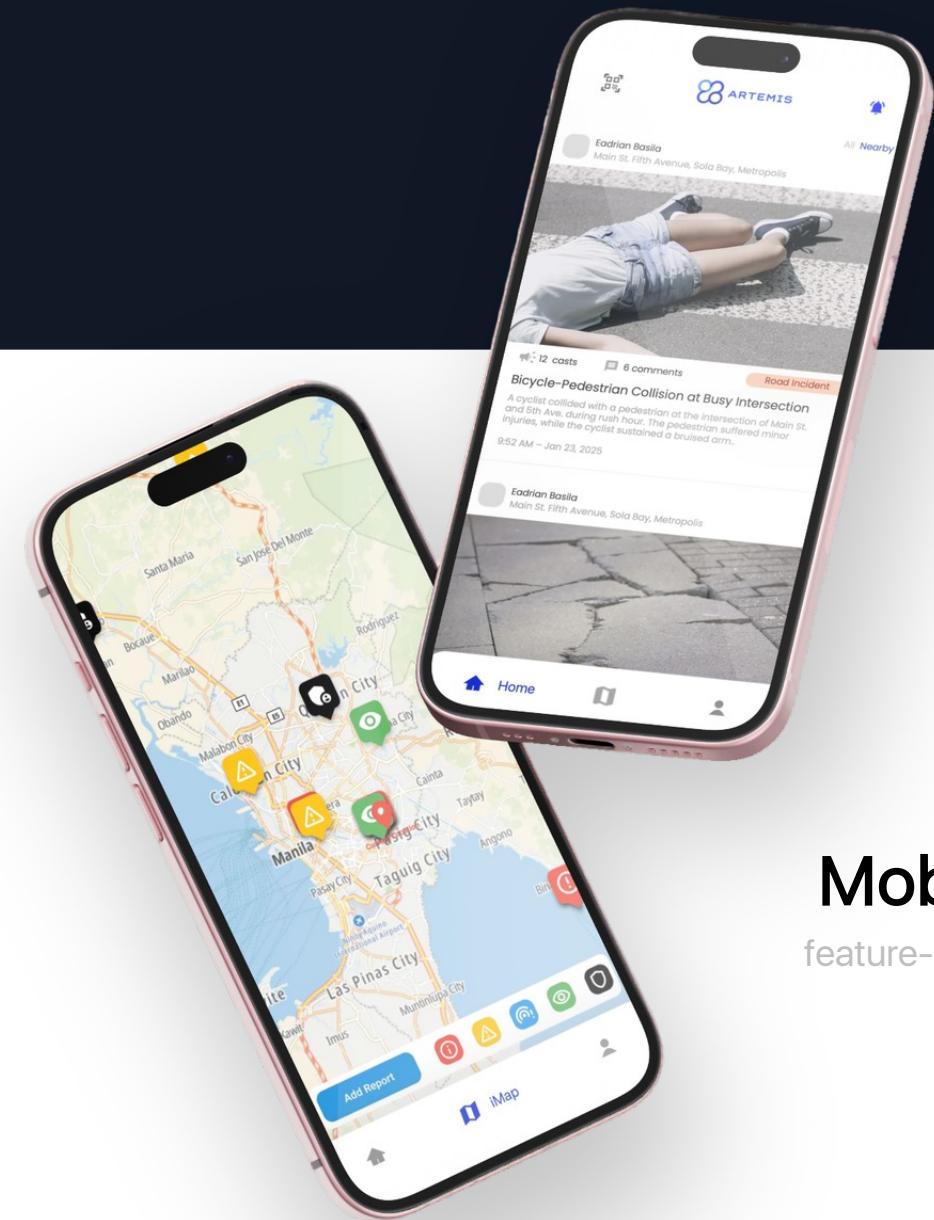
Develop

a comprehensive and technology-driven platform

that addresses pedestrian safety, accessibility, and urban mobility challenges by leveraging real-time data, AI, and community engagement.



Information System PLATFORM



Mobile App

feature-packed mobile application for pedestrians



Distributed Data

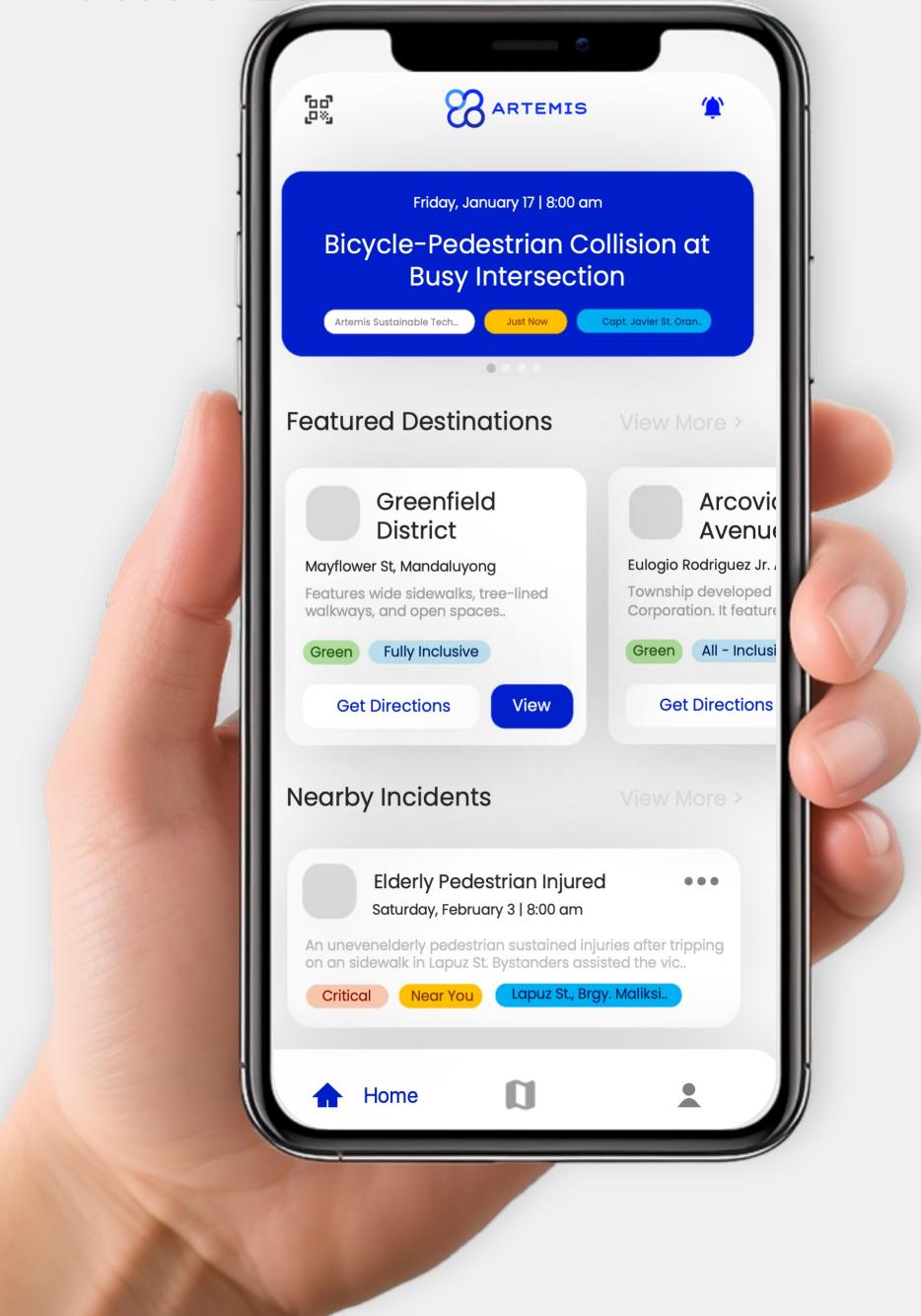
enables smart, continuous, and real-time urban mobility insights



Artificial Intelligence

pattern recognition, predictive analytics, and forecasting

ARTEMIS



Crowdsourced Reporting

Report obstructions and incidents with geotagged media, using AI to filter spam and prioritize critical reports

01

AI-Powered Walkability Scoring

Generate dynamic safety scores using AI to analyze incidents, traffic, and pedestrian activity

02

Heatmaps & Geo-Fencing for Risk Areas

Visualize high-risk zones with heatmaps and adjust safest routes based on real-time geo-fencing data

03

Distributed Data Integration

Connect and integrate data from multiple sources for real-time insights and enhanced decision-making

04

Environmental Monitoring

Integrate real-time environmental data to help pedestrians avoid areas with high pollution and encourage healthier mobility options

05

Mobile Application

Environmental Tracker

Enclosure 01

3D Printed using PLA

Microcontroller 02

ESP32 with Wi-Fi & BLE

Battery Pack 03

3500mAh 18650 cell

Sensor Payload 04

Accelerometer

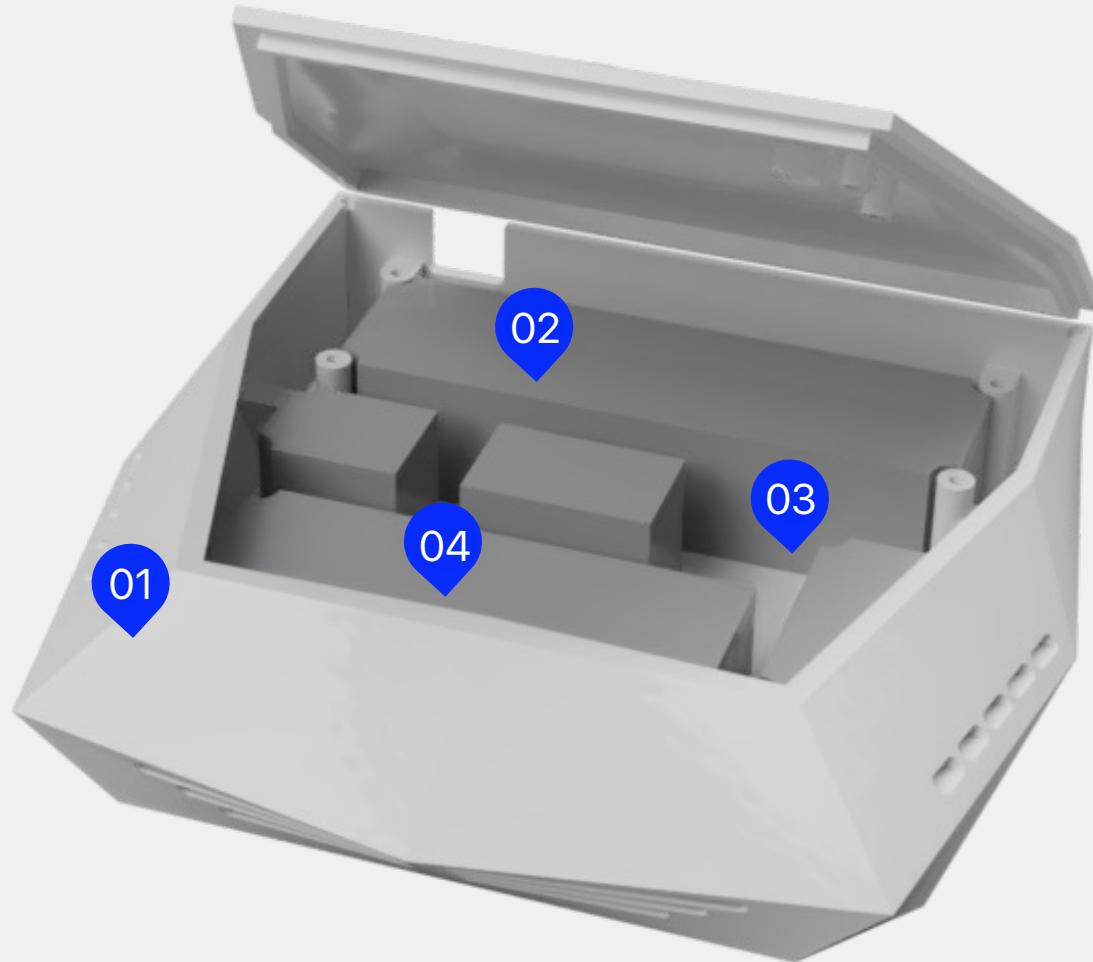
Infrared CO2 Sensor

Ambient Light Sensor

Ambient Sound Sensor

Temperature and Humidity Sensor

Analog pH Sensor *





Solution Implementation

ARTEMIS.mobility is implemented in 3 phases.



Development and Testing 0-6months

It focuses on developing core features like incident reporting, walkability scoring, and AI tools, alongside integrating traffic, air quality, and lighting data. Testing phases (alpha, beta, and regression) will refine functionality through user feedback.



Pilot Launch and Community Engagement 6-12 Months

The pilot launch in selected barangays will test functionality and scalability. Collaboration with local governments and organizations will drive adoption, while the Pedestrian Advocacy Hub fosters community engagement. User feedback will refine app features.



Full-Scale Deployment and Optimization 12-24 Months

It involves expanding the app to more barangays in Quezon City, optimizing AI algorithms and data integration for improved accuracy, and launching public awareness campaigns to drive adoption. The app will be regularly updated with new features, including advanced analytics dashboards for policymakers and gamified rewards to engage users.

1

2

3



*Let's take a step toward safer streets
with Artemis mobility.*

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Solution Objectives

Create a real-time sidewalk and incident reporting system for pedestrian safety.

Build a dynamic walkability scoring framework to guide pedestrians toward safer and more accessible routes.

Utilize AI algorithms to identify and analyze patterns in pedestrian safety, improving hazard detection and response.

Construct an environmental monitoring feature to support healthier mobility by integrating air quality, traffic data, and street lighting assessments.

Design a pedestrian advocacy hub to facilitate active community participation in urban planning and decision-making.



Scope and Limitations



Solution covers

Incident Reporting and Safety Alerts
Walkability Scoring
Environmental Monitoring
Community Engagement
Data Analytics for Urban Planning

Solution won't cover

Direct Infrastructure Development
Emergency Response Services
Universal Accessibility
Comprehensive Traffic Management
Legal Enforcement of Urban Policies

Competitive LANDSCAPE



ARTEMIS.mobility
empowers communities
and local governments.

Our solution stands out with its holistic approach, combining walkability, safety, community engagement, and environmental tracking. While Croxtec focuses on urban planning and SafeTravelPH provides travel safety updates, ARTEMIS.mobility uniquely prioritizes pedestrian needs and real-time insights.

COMPETITOR ASSESSMENT

Feature	Artemis.mobility	Croxtec	SafeTravelPH
Crowdsourced Walkability Mapping	✓ Combines real-time reporting of incidents, geotagged photos, and walkability scoring for sidewalks and routes.	✗ Focuses more on data collection for urban infrastructure but lacks direct pedestrian walkability mapping.	✗ Limited mapping functionality; prioritizes travel safety updates rather than pedestrian infrastructure.
Real-Time Incident Reporting	✓ Allows geotagged incident reports (e.g., obstructions, accidents) with alerts for nearby users and authorities	✓ Provides real-time hazard reports but focuses more on infrastructure-related issues rather than community incidents.	✓ Offers updates on travel incidents and hazards but lacks community engagement features.



COMPETITOR ASSESSMENT

Feature	Artemis.mobility	Croxtec	SafeTravelPH
AI-Powered Insights for Urban Planning	✓ Uses AI to analyze report trends, provide recommendations, and generate heatmaps for priority areas.	✓ Offers basic analytics for urban planning but without predictive AI capabilities or community-driven insights.	✗ Primarily travel-focused, with no advanced urban planning features.
Integrated Mobility Solutions	✓ Multi-modal journey planner combining walking, cycling, and public transport while avoiding hazards.	✗ No integration of multi-modal solutions; limited to urban infrastructure tracking.	✓ Provides travel updates but focuses on vehicular routes rather than pedestrian and cyclist integration.



COMPETITOR ASSESSMENT

Feature	Artemis.mobility	Croxtec	SafeTravelPH
Community Engagement	✓ Interactive advocacy hub for citizen participation, gamified incentives, and leaderboard systems.	✗ Lacks community engagement features; primarily for data monitoring and reporting by planners.	✗ Minimal community involvement features; focuses on information dissemination.
Emergency Response Integration	✓ One-tap access to police, ambulance, and fire services; SOS feature for personal safety alerts.	✗ No emergency response feature integrated.	✓ Includes emergency alerts but limited to travel-related incidents.



COMPETITOR ASSESSMENT

Feature	Artemis.mobility	Croxtec	SafeTravelPH
Environmental Impact Tracking	✓ Air quality monitoring, carbon footprint tracking, and real-time streetlight conditions for safer routes.	✓ Tracks some environmental factors like noise and air pollution but does not integrate them into user guidance.	✗ No environmental tracking features included.
Target Audience	Citizens, urban planners, local governments, pedestrians, and cyclists seeking safer, sustainable mobility.	Urban planners, policymakers, and data scientists focusing on infrastructure improvements.	Travelers, motorists, and commuters looking for travel and hazard updates.





User Engagement

There is a shortage of accurate, real-time data on pedestrian conditions, preventing urban planners from making informed decisions on improving walkability and safety.



App Functionality and Performance

Urban spaces are typically designed to prioritize vehicles, leaving pedestrians with insufficient, poorly designed infrastructure, resulting in unsafe crossings and a lack of accessibility.



Urban Impact

Accidents, hazards, and safety concerns are frequently underreported due to limited reporting mechanisms, making it difficult to address and prevent future incidents in pedestrian spaces.



Environmental and health benefits

car dependency leads to increased pollution and congestion, impacting both environmental sustainability and the physical health of urban populations, including respiratory issues and decreased physical activity.



User retention and satisfaction

Without effective channels for community input, citizens often feel disconnected from urban planning decisions, resulting in a lack of collaborative efforts to enhance walkability and address pedestrian safety issues.



Key Performance Indicators



Enhances

pedestrian safety with up-to-date information



Integrates

AI-powered insights for strategic planning and interventions



Harnesses

GIS, IoT sensors, cloud databases, and public databases



Empowers

Community through advocacy and incentives



Promotes

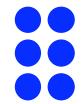
sustainability and inclusive mobility solutions

SOLUTION
PROPOSITION

Potential Challenges and Solutions

Challenge	Solutions
Data Accuracy and Real-Time Reporting	Implement AI-powered verification systems (text analysis, image classification, and spam detection) and collaborate with local authorities to verify reports and maintain data quality.
User Adoption and Engagement	Promote the app through targeted campaigns, leverage the Pedestrian Advocacy Hub for community-driven engagement, and offer gamified rewards to motivate continuous participation.
Integration of Third-Party Data	Work closely with data providers, ensure compliance with data protection laws, and test the integration during pilot phases to optimize functionality.
Scaling and Resource Constraints	Implement a phased rollout strategy starting with pilot launches in targeted areas, and gradually scale up while optimizing resources through cloud-based infrastructure.
Urban Planning and Policy Influence	Collaborate with city planners and policymakers, offering insights through the app's data analytics, and foster partnerships to drive actionable change.





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MVP

Live Demo

