Safe Walk

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Problem Statement

Late at night, a student walks alone across campus, the paths dim and silent. Many at UT Dallas share this unease. While campus police offer escorts, demand far outpaces supply. The one-to-one model can’t scale—officers can’t monitor multiple routes at once—leaving gaps in both real and perceived safety.

Proposed Solution

1. A scalable, AI-assisted virtual escort system using Microsoft Teams, Azure, and Power BI.
2. Uses on-demand communication plus smart Azure monitoring to detect risks and alert staff only when needed.
3. Offers students real-time support and peace of mind while reducing workload for campus police.

Why this matters?

- Students at UT Dallas often feel unsafe walking alone at night.
- Current UTD Police escort services cannot scale to meet demand.
- A virtual escort system reduces fear, increases safety, and fills the gap where physical escorts are unavailable.
- Improves both perceived and actual safety across campus walkways.

How the System Works

Step 1 — Student Initiates Safe Walk (Teams)

- Students open a channel inside Microsoft Teams and tap “Start Safe Walk.” They submit:
- Starting point and destination
- Estimated walk duration
- Optional real-time location sharing (opt-in for privacy)
- Teams sends this data to Azure to begin monitoring.

Step 2 — Azure Smart Monitoring Begins

- Azure handles intelligent background monitoring through:
- Azure Functions: Track time, route progress, and student check-ins
- Azure Maps: Analyze movement and detect unusual deviations
- Azure Cognitive Services (optional): Process audio or keywords for signs of distress, only when students consent
- Azure Storage / SQL: Log Safe Walk metadata for trend analysis
- Azure does not record video or audio. Only metadata and risk signals are analyzed to protect privacy.

Step 3 — Risk Detected → Notify Campus Safety (Teams Alerts)

- Azure detects issues such as overdue travel time, emergency button press, major route deviation, or AI distress signals.
- A high-priority alert is sent to a dedicated Teams channel.
- Officers receive an Adaptive Card with anonymized ID, last known location, issue type, and quick-action buttons.
- Officers intervene only when necessary, making the response process efficient and scalable

Step 4 — Safe Walk Completed

- When the student reaches their destination, they tap “I’m home safe” in Teams. Azure closes the session and writes the result to the database.

How We Built It

Power BI

1. Safety Analytics Dashboard
2. Operational Insights

Teams

1. Start a session
2. Enter start point & destination
3. Input estimated duration
4. Press "I'm home safe" or "emergency"

Azure

1. Monitoring & Logic
2. Location & Route Analysis
3. Data Storage
4. AI feature
5. Integration & Automation

Impact and outcomes

- Increased student confidence when traveling at night
- Faster response times for actual emergencies
- Reduced reliance on physical escorts
- Data-driven campus safety improvements
- Lower operational cost for the university

Summary

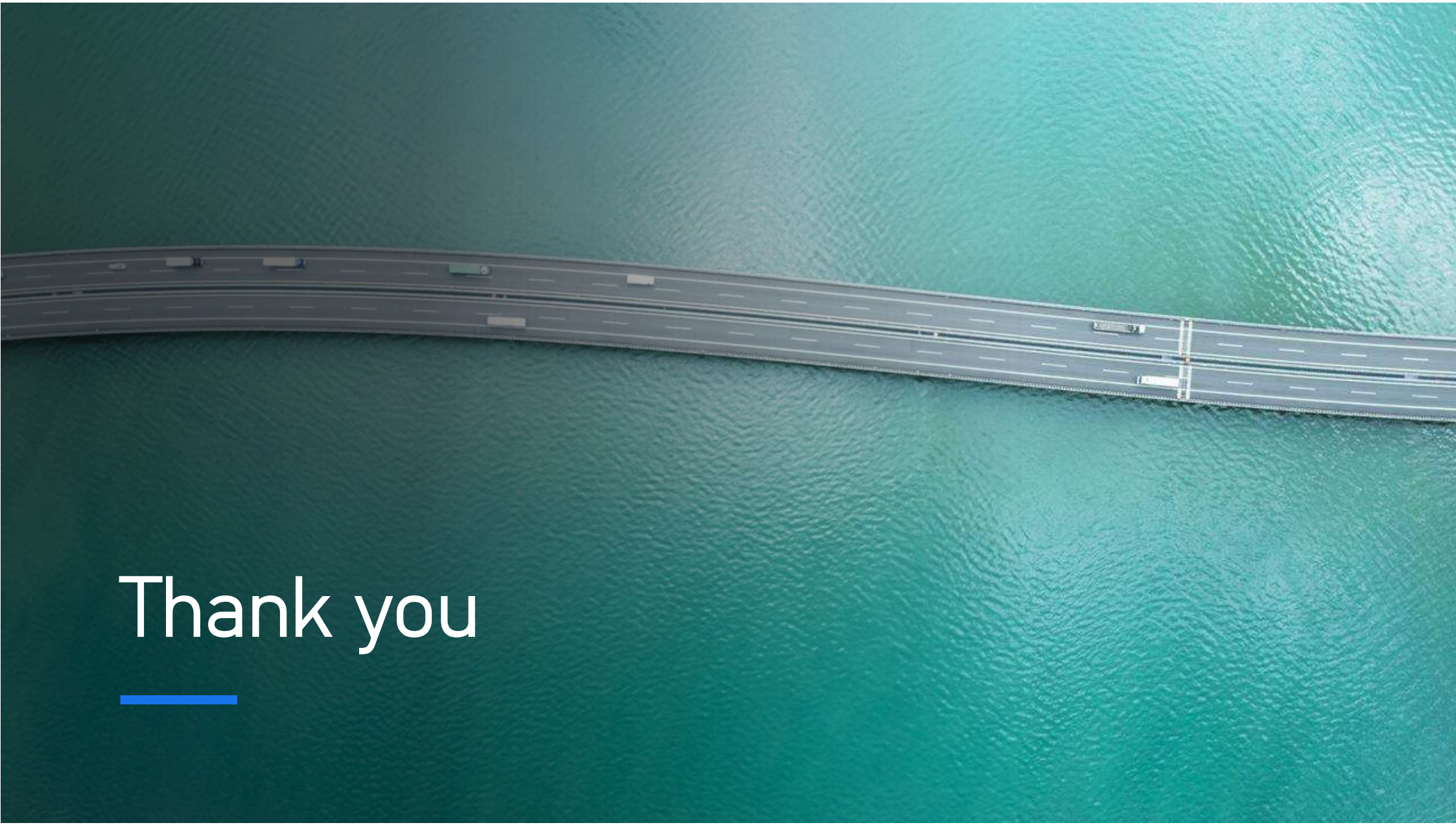
Smart Safe Walk transforms campus security from a labor-intensive, manual escort program into a scalable, intelligent, and privacy-first solution.

By combining Microsoft Teams for communication, Azure for smart monitoring, and Power BI for trend analysis, the system enhances both digital and physical safety on campus.

Give us a feedback

SOS Fall 2025 SheetHappens -One Note Link

MS Presentation


Thank you