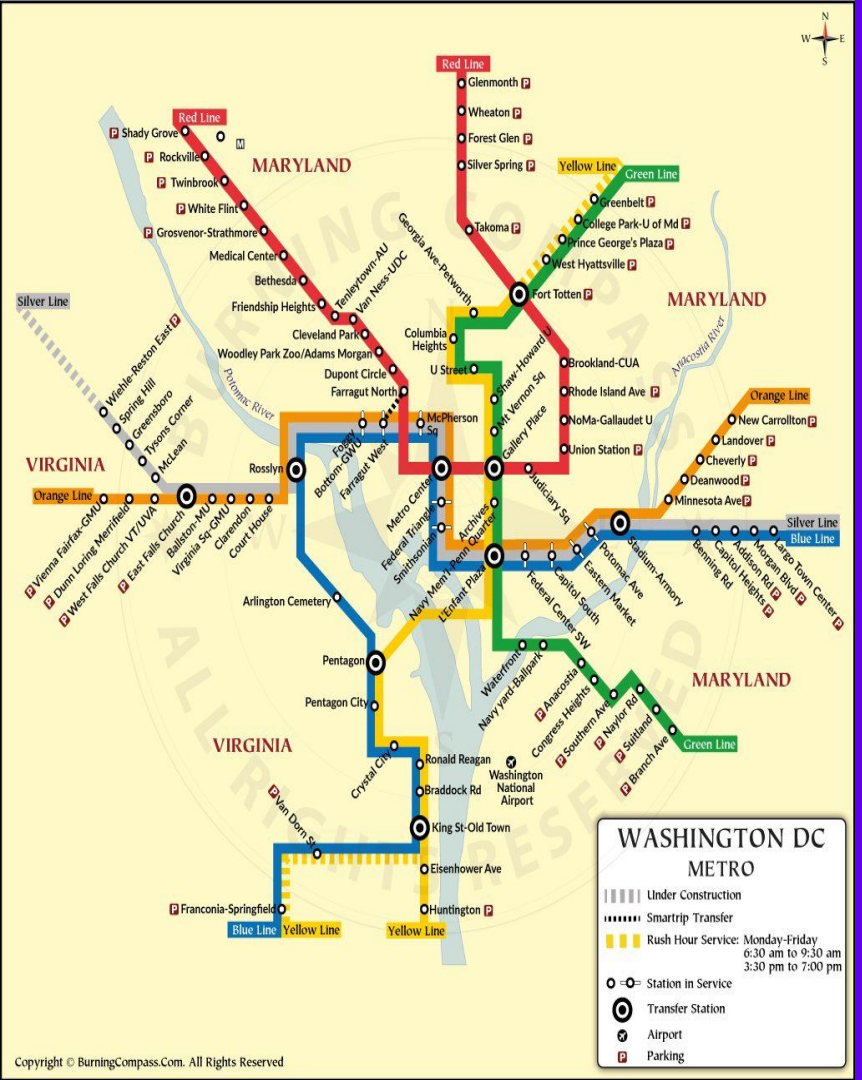

Enhanced DC Metro Information Service

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The mission

We will reinvent the DC Metro Train Status. Our vision is to create a reliable, user-friendly, and transparent transit information system for the DC Metro that leverages modern technology to enhance the commuter experience. By addressing existing gaps in real-time data accuracy, communication, and accessibility, the service aims to improve public trust, boost transit adoption, and contribute to a greener, less congested urban environment.

Target market

Frequent Commuters

Current frequent users will appreciate the improvements to the platform.

Visitors

Washington, DC is a tourist destination that sees many visitors throughout the year. An improved metro platform will support these visitors.

Infrequent Commuters

There are commuters that use the metro for occasional trips that would benefit from improved platform performance.

Current service issues

User Complaints

Frequent user reviews in app stores mention inaccurate real-time updates, missed buses, and frustration with the subscription model.

Inefficient User Interface (UI)

The app lacks essential features such as one-tap access to helplines and clear alerts about disruptions.

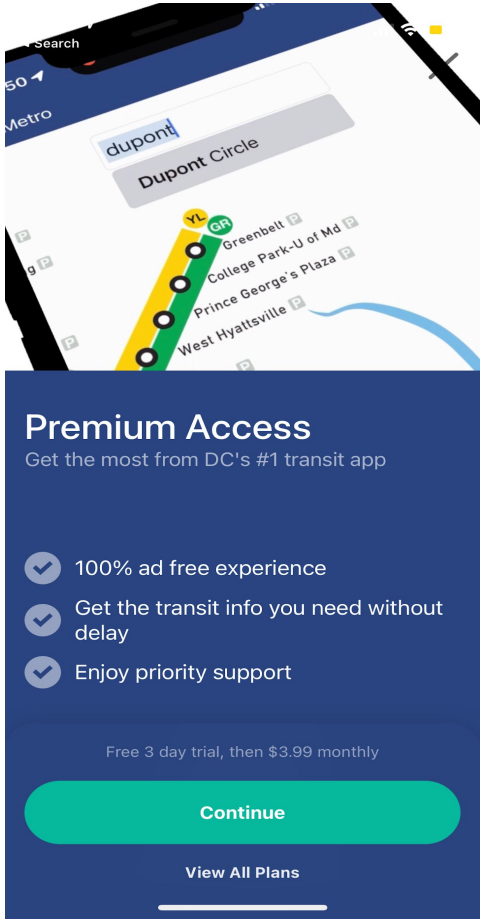
Inconsistent Bus Tracking Problem

Buses appear on the app map but sometimes disappear without explanation, leading to confusion.

Impacts on Commuters

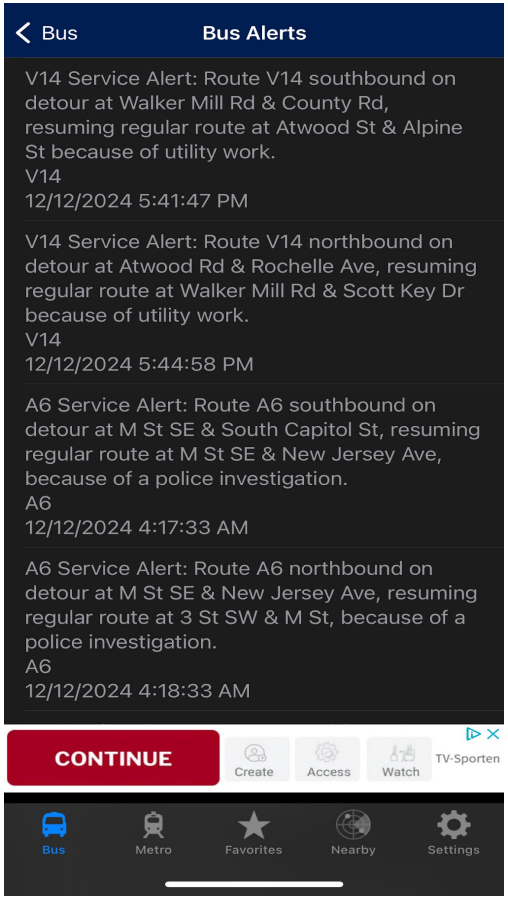
Inaccurate data leaves commuters stranded or causes delays in planning.

App Interface for Reference



For service so widely utilized, users do not want to be burdened with paywalls, especially if ads interfere with their daily travel.

A friendly user interface is essential in improving the convenience of this model.



The app is currently designed for users to sift through many ads in order to get critical info.

What is the Enhanced DC Metro Service?

The enhanced DC Metro Train Status system delivers real-time updates on train and bus locations, delays, and disruptions. It includes features like detailed delay notifications, improved data accuracy, and crowd-sourced reporting, all designed to make the transit experience more reliable and accessible. This system aims to support all target markets, promoting the use of public transportation across Washington, DC.

Economic Boost

Environmental Benefits

Enhances Transparency

Provides Real-Time Updates

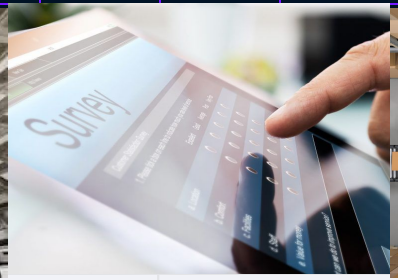
Encourages Community Engagement

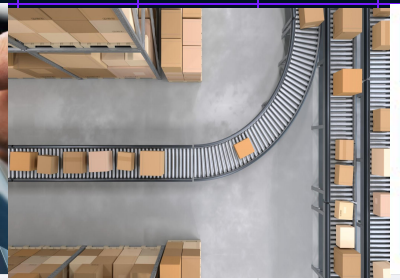
Increased Public Transit Usage

Improved Transit Reliability

The expected utilities and/or impacts of the service?

What information is needed?





Real-Time Transit

Data Train and bus locations, arrival times, directions, and occupancy levels.

Delay and Disruption

Information Reasons for delays (e.g., maintenance, weather, technical issues). Expected duration of disruptions.

User Feedback

Reports from users about obstructions, delays, or other transit issues. Ratings for crowd-sourced reports to prioritize actionable data.

Environmental Factors

Traffic conditions and weather reports for predictive analytics.

Accessibility Information

Multilingual support and hotline details for customer support.

How information is collected and processed?

Collection

- Real-Time Data: GPS systems on trains and buses feed location and timing information to a centralized system.
- Delay Data: Metro system backend infrastructure provides updates on operational bottlenecks.
- User Feedback: Crowdsourced inputs from the app's reporting feature are gathered and prioritized.
- Environmental Data: Traffic and weather APIs provide contextual information.

Processing

- Data is cleaned, synchronized, and validated for accuracy using cloud-based infrastructure and algorithms.
- Predictive models analyze environmental data to forecast delays or disruptions.

How information is analyzed and stored?

Analysis

- Machine learning processes real-time data to predict arrival times and recommend optimal routes.
- User feedback is aggregated and verified to identify high-priority issues.

Storage

- Data is securely stored in cloud-based databases for scalability and accessibility.
- Historical data is archived for trend analysis and service optimization.

Features and Functions: Data

Input Data Sources

- GPS
- Backend data

- User input

- Environmental data

Output Data

- Arrival times
- Reasons
- Suggestions
- Real-time alerts

Features and Functions: Processes

Data Collection	Data Processing	Data Analysis	Data Storage
• GPS devices • Operational systems • User reports • External APIs.	• AI-driven analytics • Predictive models	• Commuter behavior • Transit patterns	• Secure cloud-based systems

Features and Functions: Interface

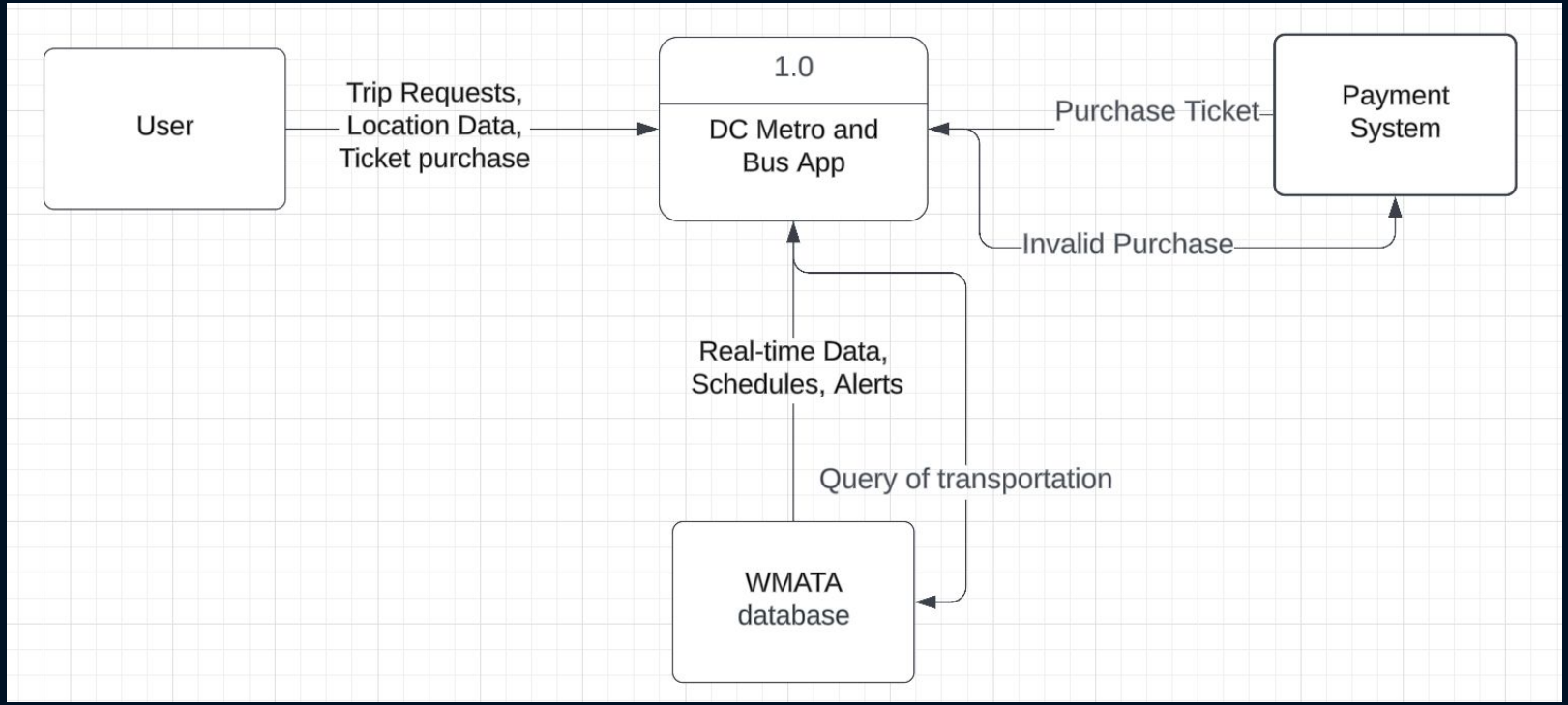
Mobile App Features	Crowd-Sourcing Reporting	Embedded Station Displays	User Accessibility
• Personalized alerts • Route optimization suggestions • Customer support	• User reports	• Real-time status updates	• Subscription • Advertisement • Multilingual support

How the service is embedded in the environment

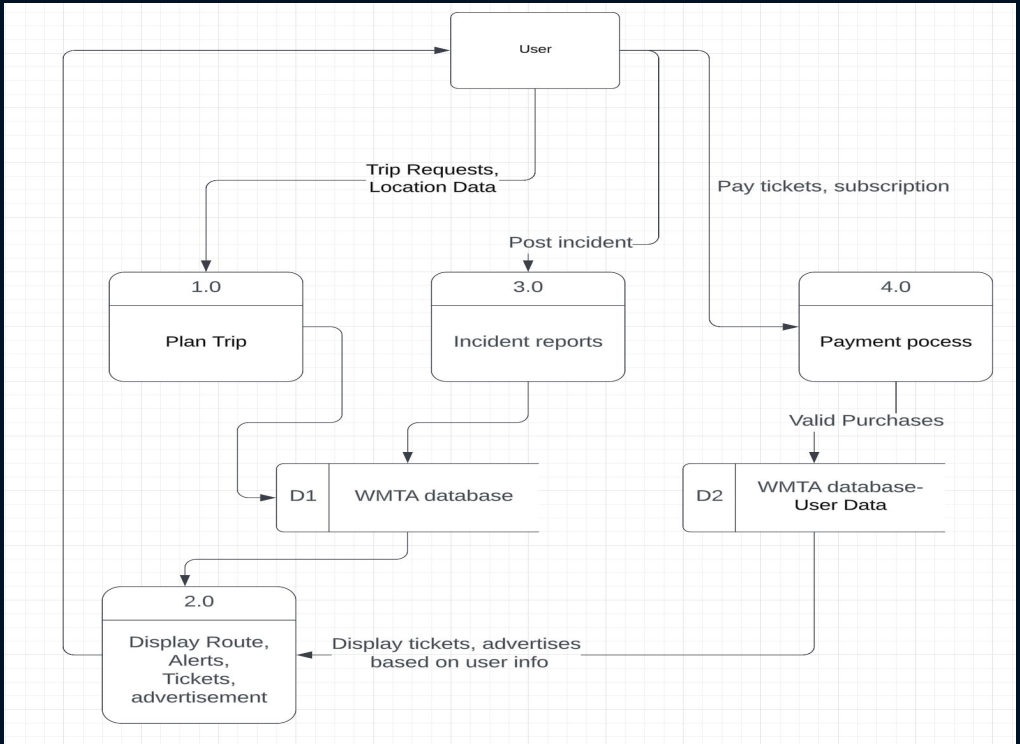
DC Metro Stations	Onboard Vehicles	Mobile App	Tourism and Local Economy
• Station monitors	• Embedded systems	• Updates • Suggestions • Alerts	Movement for tourists benefit local businesses and attractions.

Dataflow

Context Diagram



Level 1 Diagram



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Thank you.