Requirement Analysis

Stakeholder Analysis

Purpose:

To identify all stakeholders involved in the metro ticket booking system, their roles, expectations, and the impact of digitized and automated ticketing on their workflows.

Stakeholder	Role	Needs / Expectations	Impact of Automation
Passengers (End Users)	Commuters booking metro tickets	- Easy and quick ticket booking- Instant ticket generation- QR code access- Cashless payment options	✓ Faster booking without queues✓ Instant QR-code-based tickets✓ Transparent booking status
Station Managers	Manage station-level operations	- Accurate ticket validation- Reduced manual checks- Visibility into station traffic	✓ Faster entry validation via QR scan✓ Reduced crowd handling effort
Metro Operations Team	Monitor ticketing and revenue	- Reliable transaction data- Reduced ticketing errors- Operational insights	✓ Centralized ticket tracking✓ Better operational efficiency
IT Administrators	Configure and maintain ServiceNow system	- Stable automation- Easy maintenance- Secure configuration	✓ Reduced support effort✓ Easier updates and monitoring
Finance Team	Revenue tracking and reconciliation	- Accurate fare collection- Digital payment reports	✓ Improved revenue accuracy✓ Automated financial reporting

Functional Requirements

Purpose:

To define the system capabilities required to meet business objectives and deliver a seamless digital metro ticketing experience.

Feature	Description	Scope / Notes
Service Catalog Item	Centralized metro ticket booking item	Allows users to select source, destination, passenger type, and number of tickets
Dynamic Booking Forms	Forms with conditional fields	UI policies show/hide fields (e.g., student ID for student passenger type)
Automated Fare Calculation	System calculates fare automatically	Based on distance/zones, passenger category, and ticket count
QR Code Ticket Generation	Generates digital tickets with QR codes	Each booking produces a unique QR code for entry/exit validation
Flow Designer Automation	End-to-end workflow automation	Triggered on catalog submission for fare calculation, ticket creation, and notifications
Notifications	Automatic ticket delivery	Email and ServiceNow notifications containing QR code and ticket details
Custom Data Tables	Store ticket and station data	Tables like `u_metro_ticket` and `u_station_master` for reporting and audit
Reporting & Tracking	Monitor ticket usage and revenue	Includes daily sales, peak hours, and station-wise reports

Non-Functional Requirements

Purpose:

To ensure system reliability, performance, scalability, and compliance for a high-volume public transportation environment.

Requirement Type	Description / Expectation
Performance	Ticket booking and QR generation completed within SLA; supports 500+ concurrent users
Scalability	Supports future expansion to mobile apps, WhatsApp booking, and additional metro lines
Security	Role-based access control for passengers, station staff, and administrators
Compliance	Audit trail for all bookings, payments, and ticket validations
Availability & Reliability	System uptime of 99.5%; automated notifications ensure ticket delivery
Maintainability	Fare rules, stations, and workflows can be updated with minimal downtime
Response Time	Portal responds within 2–3 seconds for booking and ticket display

Summary

This **Requirement Analysis document** consolidates stakeholders, functional requirements, and non-functional requirements for the **Metro Ticket Booking System in ServiceNow**.

- Clearly identifies all roles and expectations
- Defines the system capabilities required to digitize ticket booking
- Ensures performance, security, and scalability standards
- Aligns metro operations, IT teams, and passengers on a unified platform

By following this document, the implementation team can effectively configure ServiceNow catalog items, workflows, fare logic, QR code generation, and reporting while delivering a seamless and efficient digital ticketing experience.