USECASE SCENARIOS

1. Introduction to Use Case Scenarios

This document describes key **use case scenarios** for the Metro Ticket Booking System developed in ServiceNow. The scenarios illustrate how the system behaves in real-world situations, covering the complete lifecycle from ticket request submission to QR code generation and notification delivery.

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2. Use Case Overview

Use Case ID	Use Case Name
UC-01	Single Journey Ticket Booking
UC-02	Group / Multiple Ticket Booking
UC-03	Student / Concession Ticket Booking
UC-04	Ticket History Access
UC-05	Peak Hour Load Handling

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3. Detailed Use Case Descriptions

UC-01: Single Journey Metro Ticket Booking

Actor: Passenger
Goal: Book a metro ticket for immediate travel

Main Flow:

1. Passenger accesses the ServiceNow Service Portal
2. Selects **Metro Ticket Booking** from the Service Catalog
3. Enters travel details (source, destination, passenger type, ticket count)
4. System calculates fare automatically

5. System generates a unique ticket ID
6. QR-code-based digital ticket is created
7. Passenger receives ticket via email / ServiceNow notification

Outcome:

- Ticket successfully booked
- QR code available for metro entry and exit

UC-02: Multiple Ticket Booking for Group Travel

Actor: Passenger
Goal: Book multiple tickets for group travel

Main Flow:

1. Passenger submits booking request with multiple ticket count
2. System calculates total fare
3. Applicable discounts are applied
4. System generates:
    - Individual QR codes per ticket **or**
    - A single combined QR code
5. Digital tickets are sent via notification

Outcome:

- Group tickets generated successfully
- Booking data stored for reference

UC-03: Student / Concession Ticket Booking

Actor: Student Passenger
Goal: Book a discounted metro ticket

Main Flow:

1. Passenger selects **Student** as passenger type
2. Enters student ID or concession details
3. System validates eligibility
4. Discounted fare is calculated
5. QR-code-based ticket is generated with concession tagging
6. Confirmation notification is sent

Outcome:

- Discounted ticket issued
- Concession details recorded for audit

UC-04: Ticket History and Reuse Access

Actor: Passenger
Goal: View previously booked tickets

Main Flow:

1. Passenger logs into ServiceNow portal
2. Navigates to **My Tickets / Ticket History**
3. System displays past bookings with:
    - Travel details
    - Ticket status
    - QR code
4. Passenger may re-send ticket via email if required

Outcome:

- Easy access to historical ticket data
- Improved user convenience

UC-05: Peak Hour Ticket Booking Load Handling

Actor: Multiple-Passengers
Goal: Book tickets during peak travel hours

Main Flow:

1. Multiple users submit booking requests simultaneously
2. Flow Designer processes requests in parallel
3. SLA monitoring ensures fast response
4. QR codes are generated without delay
5. Notifications are delivered instantly

Outcome:

- System handles high load efficiently
- No performance degradation observed

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4. System Behavior Summary

Across all use cases, the system ensures:

- Automated fare calculation
- Instant QR code generation
- Digital ticket delivery
- Secure data storage
- Minimal manual intervention

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5. Conclusion

These use case scenarios validate the robustness and usability of the Metro Ticket Booking System in ServiceNow. The system delivers a **fast, paperless, and scalable ticketing experience**, improves commuter satisfaction, and enhances operational efficiency. The architecture supports future enhancements such as

mobile applications, WhatsApp-based booking, and advanced analytics.