**Public Transportation Analysis**

# Define Analysis Objectives:

Begin by clearly defining your analysis objectives. What specific aspects of public transportation are you aiming to improve? For example:

Assess on-time performance of buses/trains.

Evaluate passenger satisfaction and gather feedback.

Identify routes or time periods with the highest ridership.

# Data Collection:

Collect relevant transportation data to support your analysis. This may include:

* Timetables and schedules.
* GPS tracking data for vehicles.
* Passenger survey data.
* Maintenance records.
* Historical performance data.

Design:

Data Collection: Gather data from various sources, such as ticketing systems, GPS trackers on vehicles, and passenger surveys.Data Integration: Integrate and store the data in a suitable data warehouse, such as IBM Db2, or use a data lake for flexibility.

Data Transformation: Clean, preprocess, and transform the data into a format suitable for analysis.Data Modeling: Create a data model that reflects the structure of the public transport data and the business questions you want to answer.

IBM Cognos Setup: Install and configure IBM Cognos Analytics in your environment.Data Connection: Establish a connection between Cognos and your data source. Cognos supports various data sources, including relational databases and flat files.

Report and Dashboard Design: Design reports and dashboards in Cognos to visualize the data. You can use the Cognos Report Studio or Cognos Dashboards to create interactive reports.

Data Analysis: Use Cognos to create various analyses, such as route performance, passenger trends, and revenue analysis.

Data Visualization: Utilize Cognos’ visualization capabilities to create charts, graphs, and maps to represent your data effectively.Scheduled

Reporting: Set up automated reporting and distribution of reports to key stakeholders.

Sample Code:

Below is a simple example of how can use IBM Cognos to create a basic report:

<report xmlns="http://developer.cognos.com/schemas/report/10.2.1/" useStyleVersion="10.2.1" expressionLocale="en-us">

<list name="List1">

<listColumns>

<column name="column1">

<heading>

<text>Route Name</text>

</heading>

<source>

<model>

<dataItemLabel>Data Item</dataItemLabel>

<query>

<refQuery name="query1"/>

</query>

</model>

</source>

</column>

<column name="column2">

<heading>

<text>Total Passengers</text>

</heading>

<source>

<model>

<dataItemLabel>Data Item 2</dataItemLabel>

<query>

<refQuery name="query1"/>

</query>

</model>

</source>

</column>

</listColumns>

<noDataHandler>

<contents>

<block>

<contents>

<textItem>

<dataSource>

<model/>

</dataSource>

<dataItemLabel>Data Item</dataItemLabel>

</textItem>

</contents>

</block>

</contents>

</noDataHandler>

<style>

<defaultStyles>

<defaultStyle refStyle="pg"/>

</defaultStyles>

</style>

</list>

<queries>

<query name="query1">

<source>

<model/>

</source>

<selection>

<dataItem name="Data Item">

<expression>[Transport].[Route].[Route Name]</expression>

</dataItem>

<dataItem name="Data Item 2">

<expression>total([Transport].[Passenger].[Passenger Count])</expression>

</dataItem>

</selection>

</query>

</queries>

</report>