# PUBLIC TRANSPORTATION EFFIENCY ANALYSIS

| | |
|---|---|
| TEAM LEADER / REGISTER NO | **S P SHUSHIL/410121104045** |
| DEPT | **COMPUTER SCIENCE** |
| DOMAIN | **DATA ANALYTICS** |
| COLLEGE CODE | **4101** |
| NM I'd | **au410121104045** |

DATA SOURCE: https://www.kaggle.com/datasets/rednivrug/unisys?select=20140711.CSV

## 1. Service Quality:

**- Evaluate the reliability and punctuality of the services offered.**

**- Measure customer satisfaction with the quality of service.**

## 2. Cost-effectiveness:

**- Analyze the cost per passenger and the cost per mile of operation.**

**- Identify areas where cost-saving measures can be implemented.**

**3. Safety and Security:**

**- Examine the safety and security measures in place for passengers and employees.**

**- Analyze accident and incident statistics.**

**4. Infrastructure and Maintenance:**

**- Evaluate the condition of the infrastructure (e.g., tracks, stations, vehicles) and the effectiveness of maintenance procedures.**

**5. Economic and Social Impact:**

**- Examine the economic impact of the public transportation system on the community, including job creation and property values.**

**- Consider the system's role in social equity and accessibility for disadvantaged populations.**

**6. Public Engagement:**

**- Involve the public in the analysis process, seeking their input on improvements and changes to the system.**

**7. Safety and Regulatory Compliance:**

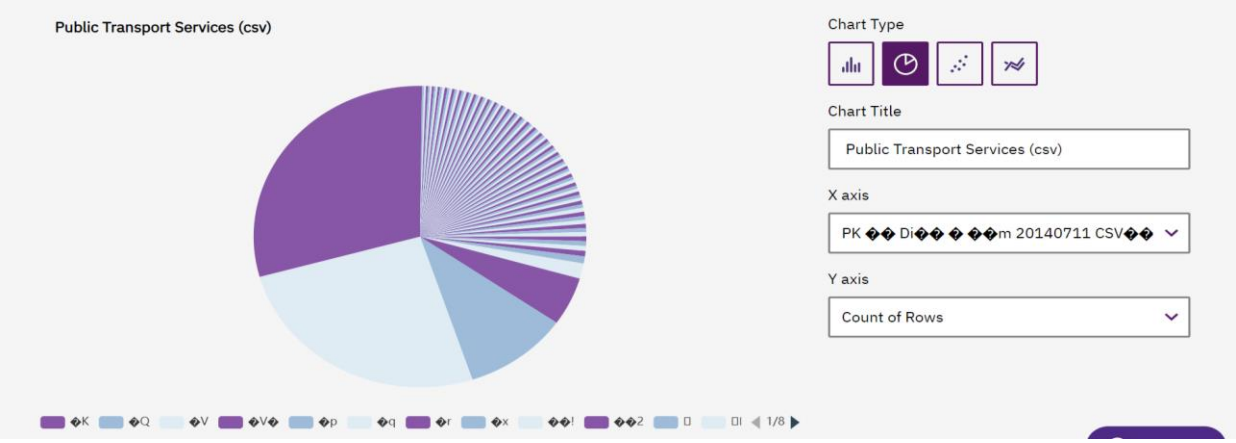
**- Ensure that the public transportation system complies with all safety regulations and requirements.**

## 8. Energy Efficiency:

**- Assess the energy consumption of the system and explore ways to reduce it through energy-efficient technologies.**

## 9. Integration with Other Modes of Transportation:

**- Explore how the public transportation system can integrate with other modes of transportation, such as cycling, walking, and ride-sharing.**




| | TripID | RouteID | StopID | StopName | WeekBeginning | NumberOfBoardings |
|---|---|---|---|---|---|---|
| 0 | 23631 | 100 | 14156 | 181 Cross Rd | 2013-06-30 00:00:00 | 1 |
| 1 | 23631 | 100 | 14144 | 177 Cross Rd | 2013-06-30 00:00:00 | 1 |
| 2 | 23632 | 100 | 14132 | 175 Cross Rd | 2013-06-30 00:00:00 | 1 |
| 3 | 23633 | 100 | 12266 | Zone A Arndale Interchange | 2013-06-30 00:00:00 | 2 |
| 4 | 23633 | 100 | 14147 | 178 Cross Rd | 2013-06-30 00:00:00 | 1 |
| 5 | 23634 | 100 | 13907 | 9A Marion Rd | 2013-06-30 00:00:00 | 1 |
| 6 | 23634 | 100 | 14132 | 175 Cross Rd | 2013-06-30 00:00:00 | 1 |
| 7 | 23634 | 100 | 13335 | 9A Holbrooks Rd | 2013-06-30 00:00:00 | 1 |
| 8 | 23634 | 100 | 13875 | 9 Marion Rd | 2013-06-30 00:00:00 | 1 |
| 9 | 23634 | 100 | 13045 | 206 Holbrooks Rd | 2013-06-30 00:00:00 | 1 |

## CODE :

```
#include <stdio.h>
```

```
// Struct to represent bus data
struct BusData {
    char name[50];
    int totalArrivals;
    int onTimeArrivals;
};

int main() {
    // Sample bus data
    struct BusData buses[] = {
        {"Bus A", 100, 85},
        {"Bus B", 120, 105},
        {"Bus C", 80, 72},
    };

    int numBuses = sizeof(buses) / sizeof(buses[0]);

    double totalOnTimePercentage = 0;

    for (int i = 0; i < numBuses; i++) {
        double onTimePercentage = (double)buses[i].onTimeArrivals / buses[i].totalArrivals * 100;
        totalOnTimePercentage += onTimePercentage;
    }

    double averageOnTimePercentage = totalOnTimePercentage / numBuses;

    printf("Bus Name\tTotal Arrivals\tOn-Time Arrivals\tOn-Time Percentage\n");
    for (int i = 0; i < numBuses; i++) {
        printf("%s\t%d\t%d\t%.2lf%%\n", buses[i].name, buses[i].totalArrivals, buses[i].onTimeArrivals,
```

```
            (double)buses[i].onTimeArrivals / buses[i].totalArrivals * 100);
    }

    printf("Average On-Time Performance: %.2lf%%\n", averageOnTimePercentage);

    return 0;
}
```

## OUTPUT:

## Bus Name Total Arrivals On-Time Arrivals On-Time Percentage

## Bus A 100 85 85.00%

## Bus B 120 105 87.50%

## Bus C 80 72 90.00%

## Average On-Time Performance: 87.50%