Table 5‑7 Straight-line Speed (km/hr) by Mode, Threshold, and Number of Segments

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Segments | **Bus** | | | | **Mixed** | | | | **Rail** | | | |
| **Black or African American** | | **White Alone** | | **Black or African American** | | **White Alone** | | **Black or African American** | | **White Alone** | |
| **Speed** | **Trips** | **Speed** | **Trips** | **Speed** | **Trips** | **Speed** | **Trips** | **Speed** | **Trips** | **Speed** | Trips |
| 1 | 14.1 | 73% | 15.0 | 91% |  |  |  |  | 13.1 | 75% | 13.5 | 79% |
| 2 | 9.3 | 25% | 9.7 | 8.7% | 12.5 | 69% | 13.1 | 76% | 10.5 | 23% | 10.7 | 20% |
| 3 | 8.1 | 2.1% | 7.8 | 0.4% | 10.9 | 26% | 11.3 | 22% | 5.7 | 1.8% |  |  |
| 4 |  |  |  |  | 8.4 | 4.6% | 8.8 | 1.7% |  |  |  |  |
| **Ave** | **12.7** | | **14.5** | | **11.9** | | **12.6** | | **12.4** | | **12.8** | |

Table 5-8

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Line** | **Average Straight Line Speed(km/hr)** | | **Proportion of Trips** | |
| **Black or African American** | **White Alone** | **Black or African American** | **White Alone** |
| Green | 6.6 | 7.4 | 1.4% | 8.6% |
| Orange | 12.2 | 11.9 | 44.8% | 32.0% |
| Red | 14.1 | 15.2 | 53.8% | 59.1% |

Table 5‑9 Speed (km/hr) by Time Period Hour, Mode, and Race

| **Time period** | **Bus** | | | | **Mixed** | | | | **Rail** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Black** | | **White** | | **Black** | | **White** | | **Black** | | **White** | |
| **Speed** | **Trips** | **Speed** | **Trips** | **Speed** | **Trips** | **Speed** | **Trips** | **Speed** | **Trips** | **Speed** | **Trips** |
| **Night/Sunrise [12AM,6 AM)** | 16.3 | 7.9% | 19.1 | 3.3% | 13.2 | 9.5% | 14.4 | 5.0% | 12.6 | 5.4% | 16.0 | 4.1% |
| **Early AM**  **[6 AM,7 AM)** | 14.0 | 13% | 17.3 | 11% | 12.7 | 18% | 14.4 | 16% | 13.4 | 10% | 15.5 | 9.5% |
| **AM Peak**  **[7 AM,9 AM)** | 11.9 | 35% | 13.8 | 53% | 11.8 | 42% | 12.3 | 55% | 12.5 | 51% | 12.9 | 54% |
| **Midday Base**  **[9 AM,13:30)** | 12.5 | 35% | 14.3 | 29% | 11.4 | 25% | 12.1 | 21% | 11.9 | 29% | 11.9 | 29% |
| **Midday School [13:30,16:00)** | 11.7 | 8.0% | 13.7 | 5.0% | 10.9 | 5.3% | 11.7 | 2.9% | 11.5 | 5.1% | 11.1 | 4.1% |
| All | 12.7 | | 14.5 | | 11.9 | | 12.6 | | 12.4 | | 12.8 | |

Table 5‑10 Average Heavy Rail Speeds (km/hr) for the Orange and Red Lines by Time of Day, Threshold, and Number of Segments

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Time  Period | Black or African American | | | | White Alone | | | | | |
| Orange Line | | Red Line | | Green Line | | Orange Line | | Red Line | |
| Speed | %Trips | Speed | %Trips | Speed | %Trips | Speed | %Trips | Speed | %Trips |
| Sunrise | 11.8 | 37.5% | 13.1 | 62.2% | 7.7 | 3.6% | 12.3 | 33.9% | 18.5 | 61.9% |
| Early AM | 12.2 | 37.8% | 14.2 | 61.5% | 7.8 | 5.4% | 12.9 | 34.6% | 17.7 | 59.6% |
| AM Peak | 11.6 | 44.1% | 13.5 | 54.2% | 7.5 | 9.3% | 11.5 | 32.5% | 14.5 | 57.9% |
| Midday Base | 11.1 | 47.3% | 13.0 | 50.7% | 7.0 | 12.2% | 10.7 | 31.3% | 13.6 | 56.1% |
| Midday School | 10.7 | 50.2% | 12.5 | 47.8% | 6.7 | 15.6% | 10.5 | 33.6% | 12.8 | 50.3% |

Table 5‑25 Summary of Potential Solutions

|  |  |  |  |
| --- | --- | --- | --- |
|  | Potential Solution | Potential Impact on Travel Time Difference (% of Current Gap) | Comments |
| Operations | Improve Bus Departure Reliability at Dudley and Forest Hills | 2% | Doesn’t include wait time reductions for users starting journeys at those stations. |
| Through-routing most Heavily Used Bus Route Pairs | 0.3%-1.0% per route |  |
| Fare | Reduce Commuter Rail Fares at Hyde Park | Further analysis required |  |
| Capital Improvements | Rapid Transit Frequencies on the Fairmount Line | 25-35% | Use of a network model to examine all disaggregate benefits to users who could use the line required. |
| Increase Heavy Rail Frequencies on Orange Line and Ashmont Branch | Further analysis required |  |
| Reconfigure Bus Network | Further analysis required | Examine bus speed improvements from BRT  Examine benefits from reorganizing bus network to reduce transfers |