**Black Box Test Plan**

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| **Test 1 –**  **invalid file** | Preconditions: None Steps:   1. Start the   TransportationManager program   1. When prompted for a file,   input “notafile.txt” | Prompted to pick an option in the menu.  If option 2 is picked; then pick which Type to sort by.  After final selection is made file is read through and realizes it is invalid. Console Returns:  “Something went wrong with the files  You’re Welcome – Goodbye” | Prompted to pick an option in the menu.  If option 2 is picked; then pick which Type to sort by.  After final selection is made file is read through and realizes it is invalid. Console Returns:  “Something went wrong with the files  You’re Welcome – Goodbye” |
| **(DT)** |  |
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| **Test 2 – valid file; adjacency list**  (ECP) | Preconditions: None Steps:   1. Start the   TransportationManager program   1. When prompted for a file, input “input/highways\_small.txt” 2. Click 1 | The program will load successfully and when prompted with the menu options and the user inputs a choice the system will not return with “Something went wrong with the files You’re Welcome – Goodbye”  Press 1:  The following list should appear:  AdjacencyList[  City 0: -> Highway[city1=0, city2=3, cost=14.0, asphalt=144.0] -> Highway[city1=1, city2=0, cost=5.0, asphalt=101.0] -> Highway[city1=2, city2=0, cost=7.0, asphalt=77.0]  City 1: -> Highway[city1=1, city2=0, cost=5.0, asphalt=101.0] -> Highway[city1=1, city2=2, cost=6.0, asphalt=55.0] -> Highway[city1=3, city2=1, cost=10.0, asphalt=66.0]  City 2: -> Highway[city1=1, city2=2, cost=6.0, asphalt=55.0] -> Highway[city1=2, city2=0, cost=7.0, asphalt=77.0] -> Highway[city1=3, city2=2, cost=12.0, asphalt=122.0]  City 3: -> Highway[city1=0, city2=3, cost=14.0, asphalt=144.0] -> Highway[city1=3, city2=1, cost=10.0, asphalt=66.0] -> Highway[city1=3, city2=2, cost=12.0, asphalt=122.0]  ]  \*\*Proper formatting with spaces | The following appears:  AdjacencyList[  City 0: -> Highway[city1=0, city2=3, cost=14.0, asphalt=144.0] -> Highway[city1=1, city2=0, cost=5.0, asphalt=101.0] -> Highway[city1=2, city2=0, cost=7.0, asphalt=77.0]  City 1: -> Highway[city1=1, city2=0, cost=5.0, asphalt=101.0] -> Highway[city1=1, city2=2, cost=6.0, asphalt=55.0] -> Highway[city1=3, city2=1, cost=10.0, asphalt=66.0]  City 2: -> Highway[city1=1, city2=2, cost=6.0, asphalt=55.0] -> Highway[city1=2, city2=0, cost=7.0, asphalt=77.0] -> Highway[city1=3, city2=2, cost=12.0, asphalt=122.0]  City 3: -> Highway[city1=0, city2=3, cost=14.0, asphalt=144.0] -> Highway[city1=3, city2=1, cost=10.0, asphalt=66.0] -> Highway[city1=3, city2=2, cost=12.0, asphalt=122.0]  ]  \*\*Proper formatting with spaces |
|  | Preconditions: Test 2 has passed Steps:  1. When prompted as expected in test 2, enter 1 | Given the follow |  |
| **Test 3 –**  **produce** | ing highway info rmation file:  2 0 7.0 77.0  3 2 12.0 122.0  0 3 14.0 144.0  1 0 5.0 101.0  3 1 10.0 66.0  1 2 6.0 55.0 |
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| **minimum highway cost (BVA)** |  | List[  Highway[city1=1, city2=0, cost=5.0, asphalt=101.0],  Highway[city1=1, city2=2, cost=6.0, asphalt=55.0],  Highway[city1=3, city2=1, cost=10.0, asphalt=66.0]  ]  \*\*there are line indents after asphalt entries | List[  Highway[city1=1, city2=0, cost=5.0, asphalt=101.0],  Highway[city1=1, city2=2, cost=6.0, asphalt=55.0],  Highway[city1=3, city2=1, cost=10.0, asphalt=66.0]  ]  \*\*there are line indents after asphalt entries |
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| **Test 4 – invalid response** | Preconditions:  - Test 2 has passed Steps:  1. When prompted to press 1, 2, press 4. | “Error – exiting” is printed | “Error – exiting” is printed |
| **Test 5 – quit program** | Preconditions:  - Test 2 has passed Steps:  1. When prompted to press 1,  2, or 3, press 3. | “Thank you – Goodbye”  Program exits | “Thank you – Goodbye”  Program exits |