<Transportation Manager> Black Box Test Plan

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Introduction
The North Carolina Department of Transportation (NCDOT) needs a new software system to help plan the construction of new highways in the state. The software system should output two alternatives for analysts to consider:
- the highways that minimize the cost for connecting selected cities in different regions of the state, and
- the highways that minimize the amount of asphalt for connecting selected cities in different regions of the state.

For our black-box test cases, we will use the following test files named highways.txt:
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

To run the tests:
1. Right click on TransportationManagerUI class in the Package Explorer.
2. Select Run As > Java Application

Test ID	Description	Expected Results	Actual Results
Test 1: **testLoadHighwayInfo** (ECP – Loading highway information from file)	**Preconditions:** • TransportationManager UI has been loaded successfully • The file highways.txt exists **Steps:** 1. Click "File" 2. Click "loadHighway" 3. Select "highways_small.txt"	The highway list panel display the all information of text file contains: Highway[city1=2, city2=0, cost=7.0, asphalt=77.0], Highway[city1=3, city2=2, cost=12.0, asphalt=122.0], Highway[city1=0, city2=3, cost=14.0, asphalt=144.0] Highway[city1=1, city2=0, cost=5.0, asphalt=101.0], Highway[city1=3, city2=1, cost=10.0, asphalt=66.0],	The highway list panel display the all information of text file contains: Highway[city1=2, city2=0, cost=7.0, asphalt=77.0], Highway[city1=3, city2=2, cost=12.0, asphalt=122.0], Highway[city1=0, city2=3, cost=14.0, asphalt=144.0] Highway[city1=1, city2=0, cost=5.0, asphalt=101.0], Highway[city1=3, city2=1, cost=10.0, asphalt=66.0],

			Highway[city1=1, city2=2, cost=6.0, asphalt=55.0]	Highway[city1=1, city2=2, cost=6.0, asphalt=55.0] Passed
Test 2: **testLoadIncorrectFormatFile** (DT – Loads a file that is incorrect format)	**Preconditions:** • TransportationManager UI has been loaded successfully • The file highways.txt exists • The file Incorrect.txt exists **Steps:** 1. Click "File" 2. Click "loadHighWay" 3. Select "Incorrect.txt"		The console output displays an error messeage: "Error in Read HighwayFile"	The console output displays an error messeage: "Error in Read HighwayFile" Passed
Test 3: **testGetMinimunCost** (BVA – get the minimum cost of connecting the cities)	**Preconditions:** • Test 1 has passed **Steps:** 1. Click "MinimumCost" on the bottom of list.		The highways list displays: 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]]	The highways list displays: 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]] Passed
Test 4: **testGetMinimunAsphalt** (BVA – get the minimum amount of asphalt required to connect the cities)	**Preconditions:** • Test 1 and 3 have passed **Steps:** 2. Click "MinimumAsphalt" on the bottom of list.		The highways list displays: 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=	The highways list displays: 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]]	3, city2=1, cost=10.0, asphalt=66.0]] Passed
Test 5: **testQuitTransportationManager UI** (ECP – Close the program)	**Preconditions:** • Test 1, 3, and 4 have passed **Steps:** 1. Select "File" on the top left 2. Select "Quit"	The program exits successfully.	The program exits successfully. Passed

Document Revision History

Date	Author	Change Description
7/6/2018	**Chee Ng**	• Created black box tests
7/23/2018	**Chee Ng**	• Revised BlackBoxTests based on UI design and completed the BBTESTS