**Introduction**

Test Plan Objectives

The project we are testing is shipping/delivery routes for a delivery company which owns three different trucks. These trucks deliver on three different routes in our city and have specific capacities as well as weight restrictions.

The trucks are to be tested for the successful delivery of packages based on a few parameters, one of which is not exceeding the capacity and weight restriction. The other aspect of the delivery is to have the truck which is closest to the delivery destination to take the package. And if there are two trucks equidistant to the location the package should be loaded onto whichever is considered less full and not violating constraints. What can be considered less full is the truck with a lower percentage of fullness for example a truck which reaches fifty percent weight and seventy percent capacity versus a truck with thirty percent capacity and sixty percent weight.  
  
Overall the objective behind these tests is to check for the right information inputted and make sure the trucks deliver efficiently through finding the shortest route to the delivery location while adhering to their constraints. From this we will obtain information as to whether the system is adhering to the standards set.

**2. Scope**

What we will be covering within our tests is invalid as well as valid inputs that will highlight compliance, it will test data input alongside the validity of the system in placement of said inputs. It will also test the formula used to calculate distance.

**3. Test Strategy**

Our testing strategy will aim to find different inputs and scenarios that will aim to try and break the constraints set on the system.

We will begin by focusing on system testing to make sure that we are compliant to the requirements and constraints that have been specified. For example we have weight restriction as well capacity restriction.

For the first stage we will focus on receiving packages of varying sizes and weights and loading them onto the appropriate trucks. We will have some loaded intentionally onto trucks which are over capacity and the test will fail. And then it will be loaded onto a truck with enough space and an assertion will be given that it will pass.

From there we will test the loading of the packages onto the appropriate trucks based on their distance towards the delivery location and have a situation where one is loaded onto a truck that is further away and requires further diversions from the main route versus a truck which requires less diversions. Both of these trucks meet weight and capacity requirements from before.

The next test will cover trucks that are equidistant from the delivery location and then a comparison is made to see which is less full based on the percentages from their capacity and weight. Once determined which is more full and which is less full a similar process is started where the truck that is considered more full is loaded and the test will fail and then the truck which is less full is loaded and is given a passing test.  
  
 **4. Test Environment**  
The environment of choice for the tests that will be conducted is Manual Testing, where a manual tester tests the software.