

## The WD Garbage Collection Problem

WD is a management business

waste of large urban centers. It has a fleet of trucks as well

and a set of incinerators. Currently interested in

the development of a software that will be able to calculate the optimum

waste transport, incineration and disposal management plan

from a set of cities (Set: C) to a set of incinerators

(Set: I) which owns and from there to a set of lands (Set: L)

where the ash produced is allowed to be excavated. The number of

customers (cities), excavation areas as well as stocks

of incinerators may vary and therefore WD wishes it

software to be delivered can be easily configured by

the same.

According to WD the parameters you should consider

are the following:

1. The distance (in kilometers) between each available

incinerator and each city, as well as between each

available incinerator and disposal area (Param:

Distances\_to\_I).

2. The cost of incineration in monetary units per ton

of waste (Param: Incineration\_Cost) in each

incinerator available.

3. The capacity (in tons) of each available

incinerator (Param: Incineration\_Capacity).

4. The tonnage of each available excavation area

(Param: Landfill\_Capacity).

5. The tons of waste of each of the available cities

(Param: Wastage).

6. The percentage of the waste weight remaining as ash

after their incineration (Param:

ReduceWasteToDebris).

7. The unit cost of material transportation in monetary units per kilometer (Param: TransportationCost).

WD provides you with the input data for a specific case in the WasteDisposal.dat file to help you in your model validation. However ideally the code your should be adjusted to different prices and dimensions of these parameters.