Centroid Import in Aimsun

Using shapefile containing centroid points and/or areas:

1. File -> Import -> GIS
2. Import as Centroids

Centroid Connections Import in Aimsun

In Aimsun:

1. File -> Export -> Export centroids and nodes as shapefile

In ArcMap:

1. Import centroids and nodes shapefiles as 2 layers
2. Geoprocessing -> Search for tools -> Type ‘Near’ -> Click ‘Near (Analysis)’
3. Drag centroids layer to Input Features
4. Drag nodes layer to Near Features
5. Wait for Near Analysis to finish (takes a couple of seconds)
6. Right click centroids layer -> Joins and Relates -> Join
7. Join based on NEAR\_FID (from centroids layer) and FID (from nodes layer)

*Some nodes have an external id (eid) and some do not have one. The centroids that connect to nodes without an external id must be imported in Aimsun separately to the ones which have an external id. The next steps take care of this.*

1. Right click centroids layer -> Open attribute table -> Sort by eid (nodes eid, which should be the 2nd eid column. The first eid is the centroid eid.)
2. Select all entries where node eid is empty -> Right click centroids layer -> Data -> Export Data -> Export Selected Features ONLY
3. Select all entries where node eid is NOT empty -> Right click centroids layer -> Data -> Export Data -> Export Selected Features ONLY

Back in Aimsun:

1. Import -> GIS -> Import as Centroid Connections
2. For entries without node external id (Import file without eid):
   1. Centroid ID in connections file: eid
   2. Centroid ID in Aimsun: External ID
   3. Object ID in connections file: id\_1
   4. Object ID in Aimsun: ID, Extended ID, External ID
3. For entries with node external id (Import file with eid):
   1. Centroid ID in connections file: eid
   2. Centroid ID in Aimsun: External ID
   3. Object ID in connections file: eid\_1
   4. Object ID in Aimsun: External ID

If closest nodes are far away from the centroid, create more nodes by dividing road sections (select road section -> select cut tool -> cut through section). The new node is created where at the division point on the road section.