

Quick start guide to using DYNAMIQ with CUBE

In CUBE

1. Export one trip matrix for primary vehicle class. as a space delimited text file including a header text block and one data block for each time slice. Export to IJ:V and reformat as a space delimited text file including a header text block and one data block for each time slice. *(See step by step guide for modeling with multiple vehicle classes)*
2. Export CUBE network as both a link and a node shapefile. In addition to any standard CUBE network attributes, the node shapefile must include an attribute that identifies which nodes are zones.

In DYNAMIQ (Version 4.4)

3. Create new DYNAMIQ project and define projection:
 - a. Go to Project/ New and provide project directory and project name
 - b. Go to Project/ Settings/ GIS and provide network projection file
4. Create new scenario and import network:
(Requires DYNAMIQ 4.4 or later, otherwise ask Bentley for assistance)
 - a. Go to Scenario/ New and provide scenario name
 - b. Select Load from CUBE Shapefiles and provide node and link shapefiles
 - c. Match pre-defined DYNAMIQ attributes with corresponding CUBE attributes (See table)
 - d. To import additional CUBE attributes as DYNAMIQ user attributes, check boxes adjacent to each attribute
5. Import trip matrices:
 - a. Go to Matrix/ New and provide matrix name for primary vehicle class to be imported
 - b. Select load from DYNAMIQ matrix file and browse to desired file *(See step by step guide for modeling multiple vehicle classes)*
6. Prepare network for Dynamic Traffic Assignment (DTA):
 - a. Go to Network/ Network Editor
 - b. Adjust centroid connectors: go to Network/ Validation and Adjustments and select Move Connectors
 - c. Adjust Start/Stop Lines: go to Network/ Validation and Adjustments and select Adjust Link Start/Stop Lines at All Nodes
 - d. Review error messages in console and either apply additional adjustment procedures: go to Network/ Validation and Adjustments, or manually edit network
7. Setup and Run DTA:
 - a. Go to DTA/ New and provide DTA name, click next
 - b. Select demand period from drop-down list, keep defaults for Assignment Intervals and End of Simulation
 - c. In Assignment tab, specify demand matrix for default vehicle class
 - d. Go to DTA/ Run If DTA run identifies network coding errors, go to Project Settings/ Network Editing/ Node Editing and select Allow DTA execution with node geometry errors *(With quick start, all intersections are modeled as uncontrolled. See step by step guide for modeling with signal control)*
8. Animation
 - a. Compute trajectories: go to Results/ Vehicle Trajectories/ Compute
 - b. View animation: go to Results/ Vehicle Trajectories/ Animation
 - c. Load data and play animation

	Dymaenq	CUBE
Nodes	ID	N
	Centroid	Attribute that identifies centroids with value of 1 and other nodes with value of 0
Links	ID	OBJECTID
	Start	A
	End	B
	Lanes	Number of travel lanes in direction of link
	Speed	Free flow speed of travel on a segment not including any node delay contribution

For updates, templates, questions, and additional guidance, please consult the [CUBE Communities Page](#).