# Define Base Year Network (Technical Drill-Down)

## Background

Network definition (marking up the maps) should be based on the cooperative inventory and identification process conducted by the MPO and TxDOT District Planning office. The network edits provided by both agencies will ensure that the roadway description used in the base year model update will accurately reflect current base year conditions.

Generally, all facilities functionally classified as a collector, or higher, are included in the roadway description provided by both agencies. A facility type code may be used to more precisely represent the operational characteristics such as divided and undivided principal arterials. In addition, several physical and operational characteristics including roadway length, number of lanes, median access type (divided or undivided), daily speed, daily capacity, average weekday traffic count and direction (one-way/two-way) are also contained in the network database. Apart from link distance, traffic counts, capacity, and daily speed, physical characteristics are primarily provided by the District and MPO.

## Process

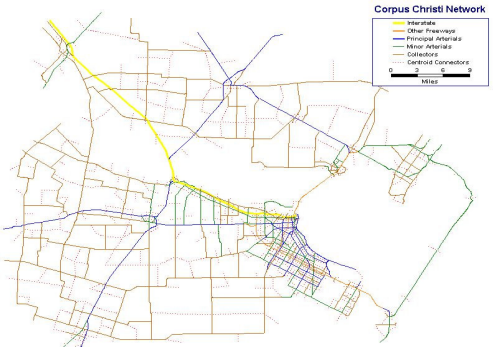
TxDOT-TPP will provide two sets of maps to edit as a basis for defining the base year network. Each should be edited to reflect all changes to the base year network. One map is returned to TxDOT-TPP while the other remains with the MPO or TxDOT District office for later reference in case of questions.

Sample Network Database

| ID | Length | Dir | SPEED | TIME | FTYPE | ATYPE | LANES | TOT_CAP |
|---|---|---|---|---|---|---|---|---|
| 111 | 1.30 | 0 | 49.00 | 1.58 | 1 | 3 | 6 | 141000 |
| 322 | 1.14 | 0 | 50.00 | 1.35 | 21 | 5 | 2 | 11000 |
| 517 | 2.98 | 0 | 50.00 | 3.56 | 21 | 5 | 2 | 11000 |
| 652 | 2.09 | 0 | 47.00 | 2.66 | 6 | 9 | 4 | 22000 |
| 651 | 0.42 | 0 | 47.00 | 0.55 | 12 | 9 | 2 | 11000 |
| 712 | 2.95 | 0 | 48.00 | 3.70 | 21 | 5 | 2 | 6000 |
| 789 | 0.49 | 0 | 52.00 | 0.57 | 6 | 5 | 4 | 22000 |
| 990 | 0.76 | 0 | 35.00 | 1.34 | 30 | 5 | 2 | 100 |
| 992 | 1.62 | 0 | 50.00 | 1.95 | 21 | 5 | 2 | 11000 |
| 1018 | 0.37 | 0 | 42.00 | 0.52 | 25 | 4 | 2 | 7000 |

Each link on the map is labeled with the existing number of lanes and functional classification or facility types as reported in the last base year update. The links are color coded to TxDOT-TPP's standard color theme for travel demand model networks. In addition to the maps, TxDOT-TPP will provide a file in dBase format containing a list of all existing links and a second file labeled as new links. The existing links file will contain the "From" and "To" node, street name, facility type, lanes, posted speed limit, and direction for each link in the existing database. With exception of the "From" and "To" node information, each attribute should be checked for accuracy within the database. The new link dBase file should be completed by the MPO and District and should eventually contain all links that will be new to the network inventory. Network edits typically include:

- New facilities
- Upgrades to existing facilities (e.g. collector to divided principal arterial)
- Upgrades to lane configurations (e.g. 4 lanes to 6 lanes)
- Upgrades to access control (e.g. undivided to divided)




It is important to note that both the maps and the dBase files will have to be reviewed and updated to reflect all updates and changes to the new base year network file. For example, if edits occur on the map, then that same edit should be reflected in one of the two dBase files, either as an edit to an existing link or as a new link to be added to the network inventory.

The network definition (map mark-up) should match existing facility and lane configurations at the time of the urban saturation counts. Therefore, all actual improvements must be completed prior to the urban saturation count process in order for it to be included in the base year network. For example, if a new road is not opened by the time the urban saturation counts are conducted, that facility should not be included in the base year network; however, the facility will need to be included in any forecast year network.