Basic Network Variables

These are common to both LOADxx\_FINAL.NET and FREEFLOW.NET. This is starting out as a partial list, including all the REQUIRED variables.

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| **[Name](http://intranet2.sfcta.org/Modeling/LoadedNetworkDecoder?sortcol=0;table=1;up=0" \l "sorted_table" \o "Sort by this column)** | [**Description**](http://intranet2.sfcta.org/Modeling/LoadedNetworkDecoder?sortcol=1;table=1;up=0#sorted_table) |
| --- | --- |
| USE | REQUIRED Value of 2 and 3 indicate HOV2 and HOV3. Value of 9 is Transit only. Value of 4 is no trucks. |
| FT | REQUIRED [Facility Type](http://intranet2.sfcta.org/Modeling/ModelFacilityTypes) Helps (along with AT) to define speed and capacity of link. |
| AT | REQUIRED [AreaType](http://intranet2.sfcta.org/Modeling/AreaType) The Area type of the facility. Helps (along with FT) to define speed and capacity of link. |
| MTYPE | REQUIRED SF for within SF, MTC without |
| SPEED | Freeflow speed on the link, in mph. Set by update\_attributes.s based on FT and AT |
| DISTANCE | REQUIRED Length of link, in miles |
| TIME | The initial time on the link, in minutes. The more accurate this is, the more accurate the initial assignment/skims are. Set by update\_attributes.s based on the DISTANCE/SPEED |
| CAP | The capacity of the link, in vehicles/hour per lane. Set by update\_attributes.s based on FT and AT, see [ModelFacilityTypes](http://intranet2.sfcta.org/Modeling/ModelFacilityTypes) for translation table. |
| LANE\_{AM,PM,OP} | REQUIRED Number of general purpose lanes in the given time period (does not include bus lanes) |
| TOLL{AM,MD,PM,EV,EA}\_{DA,SR2,SR3} | REQUIRED Toll in 1989 cents for the link in given time period for the given group. Introduced in [CHAMP4](http://intranet2.sfcta.org/Modeling/HighwayAssignmentAndSkims#CHAMP4) |
| VALUETOLL\_FLAG | REQUIRED 0=no value toll 1=toll on this link is a value toll. Introduced in [CHAMP4](http://intranet2.sfcta.org/Modeling/HighwayAssignmentAndSkims#CHAMP4). |
| PASSTHRU | REQUIRED 0 if the value toll doesn't get a 'pass, 1 if it does. Introduced in [CHAMP4](http://intranet2.sfcta.org/Modeling/HighwayAssignmentAndSkims#CHAMP4). |
| BUSTPS\_{AM,PM,OP} | REQUIRED Type of bus travel time savings from transit signal priority for the given time period. 0 = no bus TPS, 1 = 3 seconds savings, 2 = 6 seconds savings. Introduced in [CHAMP4](http://intranet2.sfcta.org/Modeling/TransitAssignmentAndSkims#Transit_Priority_Signaling_TPS_R) |
| BUSLANE\_{AM,PM,OP} | REQUIRED type of bus lane {0: none, 1: diamond, 2: side BRT, 3: center BRT} on link for time period. Introduced in [CHAMP4](http://intranet2.sfcta.org/Modeling/TransitAssignmentAndSkims#Bus_Lanes_and_Bus_Rapid_Transit) |
| {AM,PM,OP}BUSSAVE | REQUIRED attribute to add any more savings (in seconds) due to transit for the given time period |
| TOLLTIME | REQUIRED time it takes to pay a toll on the link. Introduced in [CHAMP 4.3 Fury](http://intranet2.sfcta.org/Modeling/HighwayAssignmentAndSkims#CHAMP4_3_Fury) |
| BIKE\_CLASS | REQUIRED Type of bicycle facility on route. Introduced in CHAMP 4.3 Fury.  0=None 1=Class 1 facility (off-street bike path or cycletrack) or Class 4 facility (protected bike lane or bike lane physically buffered by soft-hit, parking, curb, raised) 2=Class 2 facility (conventional bike lane or paint-buffered lane with no physical protection) 3=Class 3 facility (sharrow, signed bike route, or bicycle boulevard) |
| PER\_RISE | REQUIRED percent rise on the link (for bike routing). Can be negative. Introduced in CHAMP 4.3 Fury. |
| ONEWAY | REQUIRED boolean to determine if link is one-way. Introduced in CHAMP 4.3 Fury for the bike model) |

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Loaded Network Variables

Note that since volumes are in vehicles over the total time period and capacity is in terms of vehicles per hour, V/C ratios should incorporate peaking factor (e.g. in hwyAssign scripts).

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| **[Name](http://intranet2.sfcta.org/Modeling/LoadedNetworkDecoder?sortcol=0;table=2;up=0" \l "sorted_table" \o "Sort by this column)** | **[Description](http://intranet2.sfcta.org/Modeling/LoadedNetworkDecoder?sortcol=1;table=2;up=0" \l "sorted_table" \o "Sort by this column)** |
| --- | --- |
| BUSVOL\_{AM,MD,PM,EV,EA} | Bus volumes on the link over the time period |
| V\_1 | Total assigned volume on the link, in Passenger Car Equivalents. In other words, (V1\_1 + … + V9\_1) + TruckPCE\*(V10\_1 + V11\_1 + V12\_1) + BusPCE\*!BusVol |
| TIME\_1 | Final congested travel time on the link, in minutes |
| VC\_1 | V\_1 / capacity, but it is incorrect for us because capacity is hourly so V\_1 needs to be multiplied by the peaking factor |
| CSPD\_1 | Congested speed (mph) |
| VDT\_1 | Vehicle Distance Traveled |
| VHT\_1 | Vehicle Hours Traveled |
| V1\_1 | # of Drive Alone vehicles on the link |
| V2\_1 | # of SR2 vehicles on the link |
| V3\_1 | # of SR3+ vehicles on the link |
| V4\_1 | # of Drive Alone vehicles with value toll |
| V5\_1 | # of SR2 vehicles on the link with value toll |
| V6\_1 | # of SR3+ vehicles on the link with value toll |
| V7\_1 | # of Drive Alone vehicles with value toll already paid |
| V8\_1 | # of SR2 vehicles on the link with value toll already paid |
| V9\_1 | # of SR3+ vehicles on the link with value toll already paid |
| V10\_1 | # of trucks on the link |
| V11\_1 | # of trucks with value toll |
| V12\_1 | # of trucks with value toll already paid |
| VT\_1 | Total assigned volume (# of vehicles) on the link for two directions |
| VnT\_1 | Same as Vn\_1 but for two directions |

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