



CAMBRIDGE
SYSTEMATICS

Think  Forward

Adding Counts to Networks

presented to
Caltrans D1

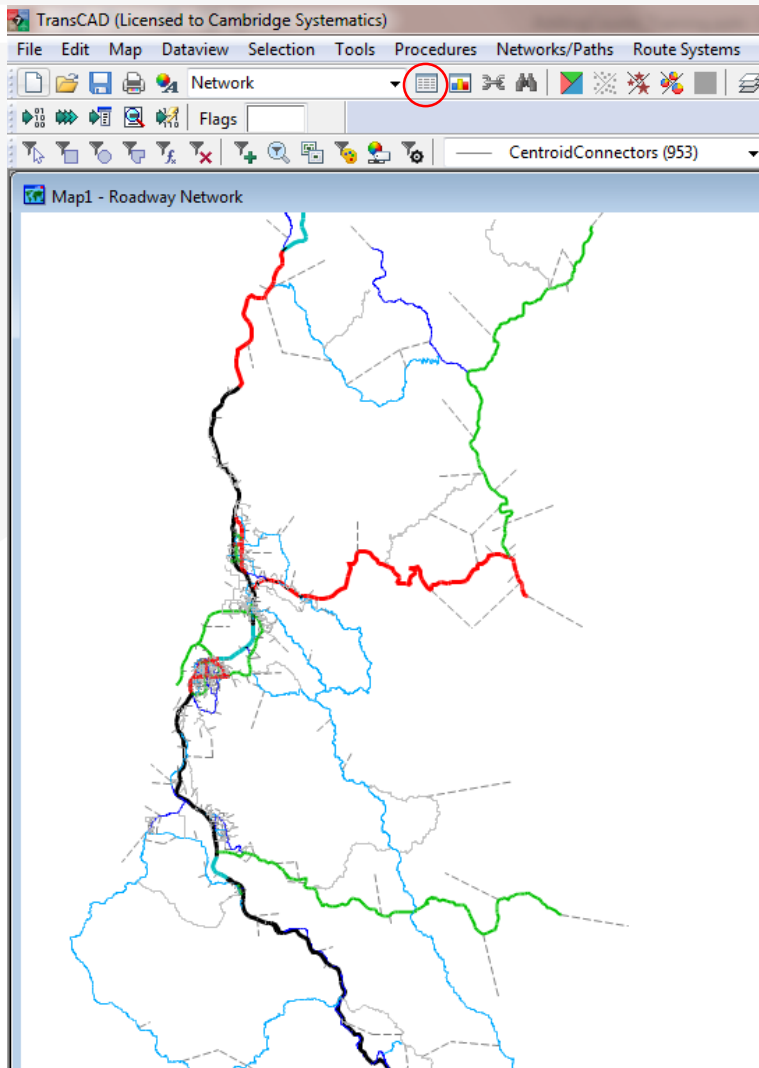
presented by
Cambridge Systematics, Inc.

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Check the Counts Spreadsheet

- Remove any formula errors (#REF, #DIV/0, #VALUE)
- Remove any peak hour information that is calculated based on daily by applying the peak hour factor
 - » Not real observed data so shouldn't be entered as such
- Ensure no duplicate link TransCAD Links IDs unless multiple counts are available for the exact same location
 - » Eg. One of the links had incorrect ID

Open Network & Dataview

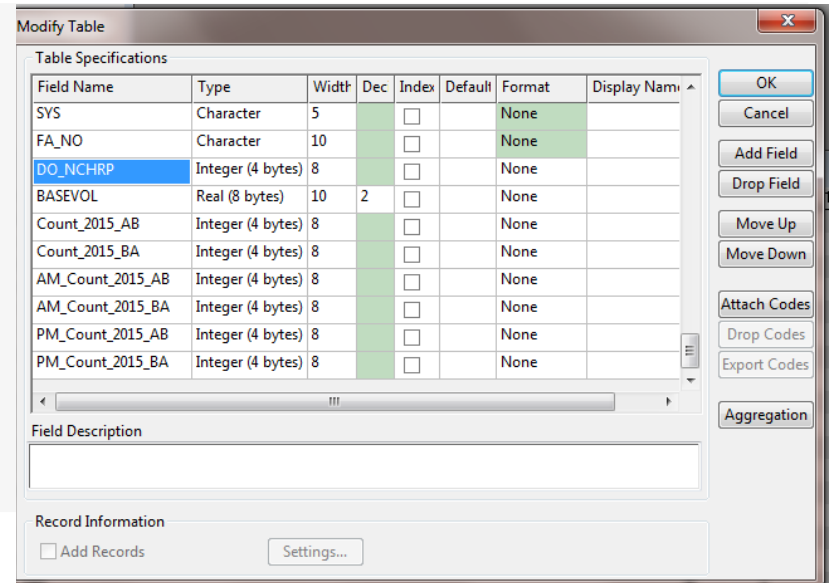


- Open Network in TransCAD
- Open the Dataview
- Go to Dataview-Modify Table

Modify Table

➤ Add 6 Integer (4 bytes) fields:

- » COUNT_2015_AB
- » COUNT_2015_BA
- » AM_COUNT_2015_AB
- » AM_COUNT_2015_BA
- » PM_COUNT_2015_AB
- » PM_COUNT_2015_BA



The screenshot shows the 'Modify Table' dialog box with the following table specifications:

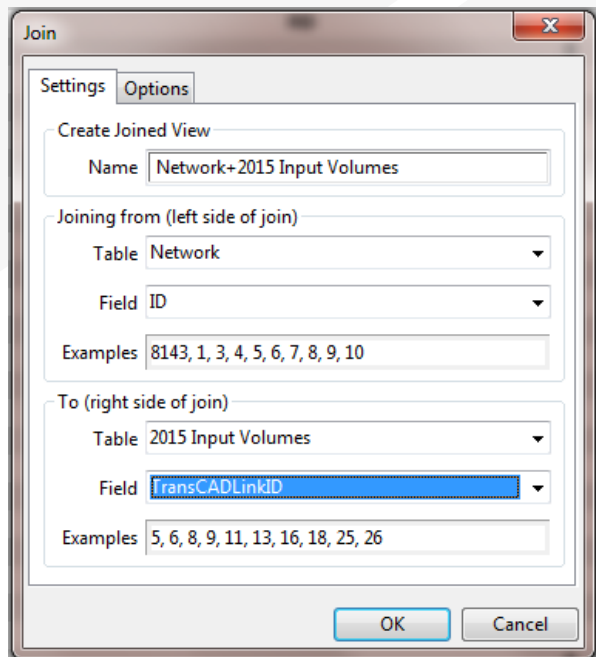
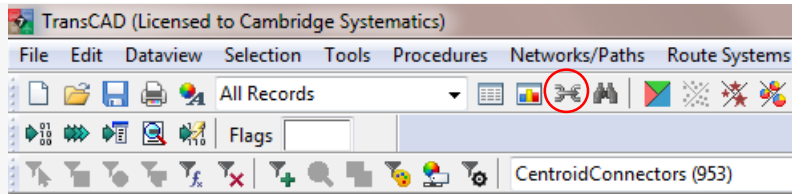
Field Name	Type	Width	Dec	Index	Default	Format	Display Name
SYS	Character	5		<input type="checkbox"/>		None	
FA_NO	Character	10		<input type="checkbox"/>		None	
DO_NCHRP	Integer (4 bytes)	8		<input type="checkbox"/>		None	
BASEVOL	Real (8 bytes)	10	2	<input type="checkbox"/>		None	
Count_2015_AB	Integer (4 bytes)	8		<input type="checkbox"/>		None	
Count_2015_BA	Integer (4 bytes)	8		<input type="checkbox"/>		None	
AM_Count_2015_AB	Integer (4 bytes)	8		<input type="checkbox"/>		None	
AM_Count_2015_BA	Integer (4 bytes)	8		<input type="checkbox"/>		None	
PM_Count_2015_AB	Integer (4 bytes)	8		<input type="checkbox"/>		None	
PM_Count_2015_BA	Integer (4 bytes)	8		<input type="checkbox"/>		None	

Field Description: [Empty text box]

Record Information: Add Records [Settings...]

Buttons: OK, Cancel, Add Field, Drop Field, Move Up, Move Down, Attach Codes, Drop Codes, Export Codes, Aggregation

Join Counts Spreadsheet



➔ Join Dataview with Counts from Excel Spreadsheet based on field ID=TransCADLinkID

Filling in Counts on Network

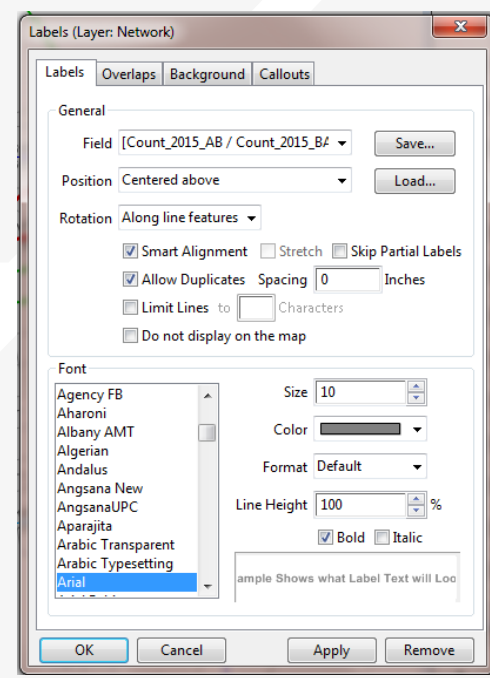
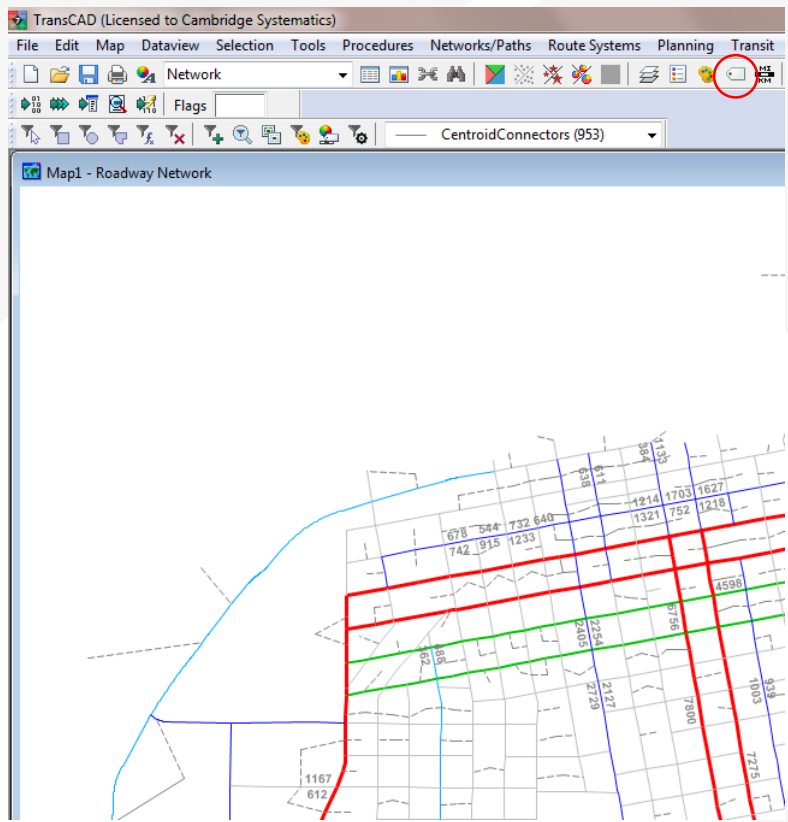
- ➔ Right click on each of the newly added count fields and select “Fill”
- ➔ Select “Formula” and enter the corresponding count field (ie. AB_2015 for Count_2015_AB)
- ➔ Note the values will be rounded because the field is an integer

The screenshot shows a data table with the following columns: BASEVOL, COUNT_2015_AB, COUNT_2015_BA, AM_COUNT_2015_AB, and AM_COUNT_2015_BA. The 'COUNT_2015_AB' column is highlighted in black. A 'Fill' dialog box is open over the table, with the 'Formula' method selected. The formula entered is 'R2I(round(AB_2015,0))'. The dialog box also has options for 'Single Value', 'Sequence', 'Tag', and 'Aggregate', along with fields for 'Start', 'Step', 'Using layer', 'Selection Set', and 'Tag with'. There are 'OK' and 'Cancel' buttons at the bottom of the dialog box.

Label Counts on the Network

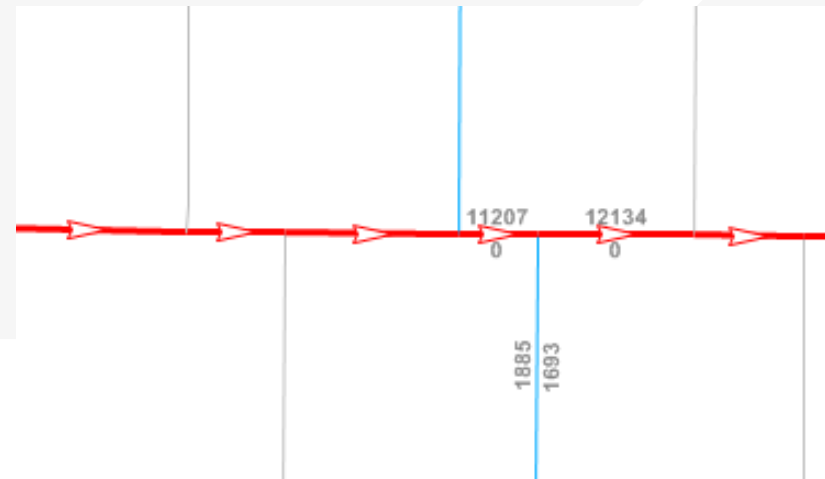
➔ Select the label tool

➔ Label based on Count_2015_AB/Count_2015_BA



Checking Counts

- Some counts appear to have been coded on the wrong side of the road
- In this example, the link is one-way in the EB direction but there are WB counts on it



Identifying Wrong Coding

➔ To identify two-way links where only one-way counts are available use

The screenshot shows the 'Select by Condition (Dataview: Network)' dialog box. The 'Enter a Condition' field contains the expression: $Dir=0 \text{ and } (nz(COUNT_2015_AB)+nz(COUNT_2015_AB))>0 \text{ and } (nz(COUNT_2015_AB)=0 \text{ or } nz(COUNT_2015_BA)=0)$. The 'Set Name' is 'TwoWayLinkOneCount'. The 'Selection Method' is 'Create Set'. The 'Previous Conditions' list shows the same condition as the current one. The 'Select from visible features only' checkbox is unchecked.

➔ To identify one-way links with incorrect directional counts use

The screenshot shows the 'Select by Condition (Dataview: Network)' dialog box. The 'Enter a Condition' field contains the expression: $Dir=1 \text{ and } COUNT_2015_BA>0 \text{ or } Dir=-1 \text{ and } COUNT_2015_AB>0$. The 'Set Name' is 'OneWayCountWrong'. The 'Selection Method' is 'Create Set'. The 'Previous Conditions' list shows the same condition as the current one. The 'Select from visible features only' checkbox is unchecked.

Assigning Counts Correctly

- In the counts spreadsheet instead of manually filling in the AB and BA counts, use a formula
- Assuming the spreadsheet includes Direction of Topology, NB_EB_Count, and SB_WB_Count
- For AB_count use:
 - » if(Direction of Topology="NB" or Direction of Topology="EB", NB_EB_Count, SB_WB_Count)
- For BA_count use:
 - » if(Direction of Topology="SB" or Direction of Topology="WB", SB_WB_Count, NB_EB_Count)