

# Mapping between Base and Alt. LRM

See the following topics for more information including how to setup and review Base and Alt. LRMs:

- [LRS Data Model](#)
  - [Setup\\_Network\\_Lines](#)
  - [Concurrent Locations](#)
  - [Network\\_Gaps](#)
  - [Network\\_Sections](#)
  - [Setup\\_Loc\\_Ident \(Event\)](#)
  - [Network\\_Lanes\\_Count](#)
  - [Network\\_Line\\_Directions](#)
  - [Network\\_Line\\_Lanes](#)
  - [Complex Scenario: Divided Highway](#)

## Data Model

Once the alternate referencing is defined in the SETUP\_LOC\_REF\_COLUMNS table and the changes applied to the database, the columns configured there will appear in the SETUP\_LOC\_IDENT table (refer to Chapter 4, for in-depth understanding and information about other uses of this table). In order to support translation between the base and Alt. LRMs, as shown in the following figure, the system requires a full map between them.

The mapping between the base and alternate is provided by a special set of rows in the SETUP\_LOC\_IDENT table. These rows are always identified by the row filter: SOURCE\_TABLE='LOC\_REF\_XX' (where XX is the ID number of alternate referencing system from SETUP\_LOC\_REF).

This set of rows in SETUP\_LOC\_IDENT must always be a full map between all references in the alternate system mapped onto the base system. When editing and viewing data the system utilizes these records to calculate a base reference when given an alternate and vice versa. The example in the next section shows as an example. Records corresponding to the table SETUP\_LOC\_IDENT – LOC\_REF\_25 Source\_Table are displayed (in this example, LOC\_REF\_ID for the Alt. LRM is 25). The LOC\_IDENT is a unique identifier in this table and contains information about each route segment mapping between the Base and Alternate Referencing System – Attribute Columns (Route Number, County, Direction, Functional Class, etc.) and the Measure Columns (State-wide Milepost From/To, etc.).

## Window

There is no Alt LRM configured out of the box, but if you have created an Alt LRM, when you right-click the record for an alternate LRM in the upper pane, the system displays the following special command in a shortcut menu:

- **Make Window** – This command will create a new window that shows the mapping between Base and Alt. LRM. After choosing this command, a pop-up window (Form Window Maker) will display. Choose the "Alternative location Editor" and click Next. Then click the parent menu item into which a menu item for the window, which will show the cross-reference table between the Basic Referencing System (BRS) and the selected alternate system. After selecting the parent menu item, click OK to close the window. Then log off and log back on, and the menu item will be in the designated place, with the name of the menu item being what is entered in the Loc Ref Name column. Open the new window to see the cross-reference table. The BRS is shown on the left and the alternate system is on the right. User can then use the window to enter the mapping between the Base and Alt. LRM.

The steps are shown in the following charts.

System > LRS/GIS > Setup Location Reference Methods (LRMs) ☆ Save Reload

LRSs Actions

Basic LRS?	* LOC REF NAME	Comments	User Update	Date Update
<input checked="" type="checkbox"/>	Basic LRS			
<input checked="" type="checkbox"/>	Example County-Based LRM			3/2/2020

Context Menu for 'Example County-Based LRM':

- Insert
- Delete
- Make Window
- Sort
- Find
- Export Data
- Copy Rows to Clipboard (CSV)
- Copy All to Clipboard (CSV)

Columns Actions

Column ID	Column Label	COLUMN ID TO	COLUMN LABEL TO	* LRS column type	Hidden	Initial Value	Show To?	Order =	Order To	NET ORDER ID	NET LOOKUP TABLE	NET
COUNTY_FROM	From County	COUNTY_TO	To County	Location Attribute	<input type="checkbox"/>		<input checked="" type="checkbox"/>	10	30			
COUNTY_ROUTE_FROM	From Route	COUNTY_ROUTE_TO	To Route	Location Attribute	<input type="checkbox"/>		<input checked="" type="checkbox"/>	20	40			
LANE_DIR	Direction			Location Across	<input type="checkbox"/>	0	<input checked="" type="checkbox"/>	50				
LANE_ID	Lane			Location Across	<input type="checkbox"/>	0	<input checked="" type="checkbox"/>	60				
PERPEN_OFFSET	Offset			Location Across	<input type="checkbox"/>	0	<input checked="" type="checkbox"/>	70				
COUNTY_MEASURE_FROM	From Measure	COUNTY_MEASURE_TO	To Measure	Location Measure	<input type="checkbox"/>		<input checked="" type="checkbox"/>	80	90			

System > LRS/GIS > Setup Location Reference Methods (LRMs) ☆ Save Reload

LRSs Actions

Basic LRS?	* LOC REF NAME	Comments	User Update	Date Update
<input checked="" type="checkbox"/>	Basic LRS			
<input checked="" type="checkbox"/>	Example County-Based LRM		TING	3/2/2020

Form Window Maker Dialog:

Select Window Type:

- Main
  - Alternative location editor
- Popup
  - Show Popup

Buttons: Next, OK, Cancel

Columns Actions

Column ID	Column Label	CO
COUNTY_FR	From County	CO
COUNTY_RC	From Route	CO
LANE_DIR	Direction	
LANE_ID	Lane	
PERPEN_OF	Offset	
COUNTY_ME	From Measure	CO

Add a menu item under this parent

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LRMs Actions

Basic LRS?	* LOC REF NAME	Comments	User Update	Date Update
<input checked="" type="checkbox"/>	Basic LRS			
<input type="checkbox"/>	Example County-Based LRM		TING	3/2/2020

Form Window Maker

Window Id: loc\_ref\_25 Window Title: Example County-Based LRM

Editable?

Select Menu Actions

- System
  - Security
  - Utilities
  - Settings
  - Tools
  - LRMs
    - Add
    - Find
    - Tag Record
    - Reference Methods (LRMs)
    - Roads
    - Linear Network Tools

Columns Actions

Column ID	Column Label	CO
COUNTY_FF	From County	CO
COUNTY_RC	From Route	CO
LANE_DIR	Direction	
LANE_ID	Lane	
PERPEN_OF	Offset	
COUNTY_ME	From Measure	CO

NET LOOKUP TABLE NET LOOKUP ID COLUMN NET L

*Example Alternate LRM Mapping Screen*

System > LRS/GIS > Example County-Based LRM ☆ Save Reload

Actions

Route ID	BMP	EMP	From County	From Route	To County	To Route	From Measure	To Measure
H001A		0	1 AVON	H001A	AVON	H001A	0	1
H001A		1	5 BALLADONIA	H001A	BALLADONIA	H001A	0	4
H001A		5	10 CANNING	H001A	CANNING	H001A	0	5

*SETUP\_LOC\_IDENT Table Data with a County-Based LRM Example*

loc_ident	source_table	lane_dir	lane_id	route_id	offset_from	offset_to	county_from	county_to	county_route_from	county_route_to	county_measure_from	county_measure_to
1278	LOC_REF_25	0	0	24	0.00	1.00	1	1	24	24	0.00	1.00
1280	LOC_REF_25	0	0	24	1.00	5.00	2	2	24	24	0.00	4.00
1281	LOC_REF_25	0	0	24	5.00	10.00	3	3	24	24	0.00	5.00