FEATURE 142
MANAGED LANES

Roadway Side	Allows Tie	LRS Package	Feature Type	Interlocking	Secured
C	Yes	No	Length	No	Yes
Responsible Party for Data Collection	District Planning				

Definition/Background: This feature is used to identify on the mainline where there are associated managed lanes. Additionally, it is used to identify the correlating mainline for which the managed lanes are attached.

Code on Managed Lane

This is to create a reference to the Associated Mainline.

MAINRDWY | MAINLINE ROADWAY ID

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	All Managed Lanes.	N/A	N/A

Definition/Background: The mainlines roadway ID. This is coded on each managed lane.

How to Gather this Data: Record the roadway ID of the mainline.

Value for Mainline Roadway ID: 8 Bytes: XXXXXXXX

MAINBMP | MAINLINE BEGIN MILEPOINT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	All Managed Lanes.	N/A	N/A

Definition/Background: The milepoint where the managed lane is physically separated from the mainline. This is coded on each managed lane.

How to Gather this Data: Travel along the mainline to collect the mainline milepoint where the managed lane is first encountered/begins.

Value for Mainline BMP: 6 Bytes: XXX.XXX

MAINEMP | MAINLINE END MILEPOINT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	All Managed Lanes.	N/A	N/A

Definition/Background: The milepoint where the managed lane reconnects to the mainline. This is coded on each managed lane.

How to Gather this Data: Travel along the mainline to collect the mainline milepoint where the managed lane is last encountered/ends.

Value for Mainline EMP: 6 Bytes: XXX.XXX

Code on the Mainline—Reversible Managed Lane

CMLRDWY | COMPOSITE MANAGED LANE ROADWAY ID

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	Mainline roadways that have an associated Managed Lane.	N/A	N/A

Definition/Background: The composite managed lane's roadway ID. This is coded on the mainline. The composite managed lanes are typically reversible.

How to Gather this Data: Record the roadway ID of the composite managed lane.

Value for Composite Managed Lane Roadway ID: 8 Bytes: XXXXXXXX

CMLBMP | COMPOSITE MANAGED LANE BEGIN MILEPOINT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	Mainline roadways that have an associated Managed Lane.	N/A	N/A

Definition/Background: The milepoint where the composite managed lane begins. usually at BMP 0.000. This is coded on the mainline.

How to Gather this Data: Travel along the composite managed lane to collect its BMP. If the managed lane begins before the mainline, record the BMP as 0.000 (or the lowest milepoint for the mainline).

Value for Composite Managed Lane BMP: 6 Bytes: XXX.XXX

CMLEMP | COMPOSITE MANAGED LANE END MILEPOINT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	Mainline roadways that have an associated Managed Lane.	N/A	N/A

Definition/Background: The milepoint where the composite managed lane ends. This is coded on the mainline.

How to Gather this Data: Travel along the composite managed lane to collect its EMP.

Value for Composite Managed Lane EMP: 6 Bytes: XXX.XXX

Code on the Mainline—Left Managed Lane

LMLRDWY | LEFT MANAGED LANE ROADWAY ID

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	Mainline roadways that have an associated Managed Lane.	N/A	N/A

Definition/Background: The left managed lane's roadway ID. This is coded on the mainline.

How to Gather this Data: Record the roadway ID of the left managed lane.

Value for Left Managed Lane Roadway ID: 8 Bytes: XXXXXXXX

LMLBMP | LEFT MANAGED LANE BEGIN MILEPOINT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	Mainline roadways that have an associated Managed Lane	N/A	N/A

Definition/Background: The milepoint where the left managed lane begins, usually at BMP 0.000. This is coded on the mainline. If the managed lane begins before the mainline, record the BMP as 0.000 (or the lowest milepoint for the mainline).

How to Gather this Data: Travel along the left manage lane to collect its BMP.

Value for Left Managed Lane BMP: 6 Bytes: XXX.XXX

LMLEMP | LEFT MANAGED LANE END MILEPOINT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	Mainline roadways that have an associated Managed Lane.	N/A	N/A

Definition/Background: The milepoint where the left managed lane ends. This is coded on the mainline.

How to Gather this Data: Travel along the left managed lane to collect its EMP.

Value for Left Managed Lane EMP: 6 Bytes: XXX.XXX

Code on the Mainline—Right Managed Lane

RMLRDWY | RIGHT MANAGED LANE ROADWAY ID

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	Mainline roadways that have an associated Managed Lane.	N/A	N/A

Definition/Background: The right managed lane's roadway ID. This is coded on the mainline.

How to Gather this Data: Record the roadway ID of the right managed lane.

Value for Right Managed Lane Roadway ID: 8 Bytes: XXXXXXXX

RMLBMP | RIGHT MANAGED LANE BEGIN MILEPOINT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	Mainline roadways that have an associated Managed Lane.	N/A	N/A

Definition/Background: The milepoint where the right managed lane begins, usually at BMP 0.000. This is coded on the mainline. If the managed lane begins before the mainline, record the BMP as 0.000 (or the lowest milepoint for the mainline).

How to Gather this Data: Travel along the right manage lane to collect its BMP.

Value for Right Managed Lane BMP: 6 Bytes: XXX.XXX

RMLEMP | RIGHT MANAGED LANE END MILEPOINT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
N/A		Central Planning, District Planning, Safety, Financial Management, District Office of Maintenance	Mainline roadways that have an associated Managed Lane.	N/A	N/A

Definition/Background: The milepoint where the right managed lane ends. This is coded on the mainline.

How to Gather this Data: Travel along the right managed lane to collect its EMP.

Value for Right Managed Lane EMP: 6 Bytes: XXX.XXX

Managed lanes refer to toll lanes that are in conjunction with mainline facilities that allow for variable situations depending on traffic volume and roadway conditions. An example is the I-95 Express. Another name for managed lanes is high occupancy toll (HOT) lanes.

Each direction of travel of the managed lanes will be assigned a roadway ID. The roadway ID number of the managed lane will match the associated mainline section number and the sub-section number will be in the 900 series. The managed lanes will be coded as Active Exclusive under the inventory type and as managed lanes under the roadway type. Managed lanes will be inventoried as part of the District's 5-year inventory cycle and will be at the same cycle along with their associated mainline roadway.

For inventory requirements, reference the Managed Lanes RCI Inventory requirements in Chapter 5 of this Handbook.

Managed lanes will not add centerline miles to the SHS, but will add lane miles, which will provide proper funding to the Office of Maintenance. Managed lanes will be added and maintained in the LRS and RCI. Effective December 2017.

SLDs will be required for managed lanes. Display Section Q Managed Lanes on the mainline SLD to display the limits of the associated managed lanes. Managed lanes will be displayed as mainline facilities on the County Section Number Key Sheets.

Coding Managed Lanes in RCI

1. Assign a roadway ID to each travelway.
2. Inventory each roadway ID in the direction it travels, i.e., the ascending managed lanes are inventoried from south to north, and the descending managed lanes are inventoried from north to south.
3. The two roadway IDs for the managed lanes can be of unequal length.
4. The managed lanes will not add any centerline mileage to the state highway system nor any mileage to the interstate system.
5. The VMT for the managed lanes will increase the interstate total VMT.
6. The lanes for the managed lanes will be added to the mainline total number of lanes for reporting purposes.
7. Code Feature 142—Managed Lanes. The listed characteristics items “a” through “i” are coded for the mainline roadway. Characteristic items “j” through “l” are coded for the managed lane roadways.

Mainline Roadway (to associate to the appropriate managed lanes)

a. RMLRDWY—Right Managed Lane Roadway ID

b. RMLBMP—Right Managed Lane Begin Milepoint

c. RMLEMP—Right Managed Lane End Milepoint

d. LMLRDWY—Left Managed Lane Roadway ID

e. LMLBMP—Left Managed Lane Begin Milepoint

f. LMLEMP—Left Managed Lane End Milepoint

g. CMLRDWY—Composite Managed Lane Roadway ID

h. CMLBMP—Composite Managed Lane Begin Milepoint

i. CMLEMP—Composite Managed Lane End Milepoint

Managed Lane Roadways (to associate to the mainline)

j. MAINRDWY—Roadway ID for the associated mainline highway

k. MAINBMP—Begin Milepoint of the associated mainline highway

l. MAINEMP—End Milepoint of the associated mainline highway

8. MLTRFSEP Managed Lane Separator, is under Feature 214. It is only coded for managed lane roadways. The MLTRFSEP codes are:

   0: None **1:** Flexible Posts **2:** Guardrail **3:**Barrier Wall **4:** Vegetation

9. Where characteristics under Feature 119 and Feature 212 break in relationship to the beginning/ending location of a managed lane, ensure that the milepoint limits for these characteristics exactly match the BMP/EMP of the managed lane coded under Feature 142.

CASE A | LOCATIONS WHERE THE MANAGED LANES RUN ADJACENT TO THE INTERSTATE LANES

Mainline:

1. There is no median or inside shoulder between the mainline and the managed lane of the same direction. Therefore, code Feature 215—Code RDMEDIAN as code 50—Non-counted Managed Lane. Do not code Feature 219.

Managed Lanes:

1. The delineator (MLTRFSEP) is between the free and tolled lanes will only be coded once, and will be assigned to the managed lanes roadway ID.

2. The type and width of the inside shoulders will be coded.

3. Half of the median width will be coded for each managed lane roadway.

4. In locations where the managed lane shares a bridge with the mainline, the bridge number is also coded on the managed lane roadway ID.

5. In locations where the NB and SB managed lanes share a bridge, code the bridge number on both of the managed lanes roadway ID.

6. Code any tolling data that applies in Feature 122 and Feature 119.

7. Code lanes and surface width under Feature 212. Do not include managed lanes in the count for NOLANES on the mainline roadway ID.

CASE B | LOCATIONS WHERE ONE MANAGED LANE OCCUPIES A NEW ALIGNMENT

Mainline:

1. There is no median or inside shoulder between the mainline and the managed lane of the same direction. However, if there is not a managed lane between the through lanes and the inside shoulder/median then code the inside shoulder and ½ the width of the median.

2. There will be no other changes made to the mainline data.

Managed Lane, separate alignment—The managed lane data will be recorded the same way as any other roadway.

Managed Lane, same alignment—Refer to Case A above.

CASE C | LOCATIONS WHERE THE MANAGED LANES RUN IN BETWEEN THE INTERSTATE LANES AS A POTENTIAL ONE-WAY OR REVERSIBLE FACILITY

Mainline:

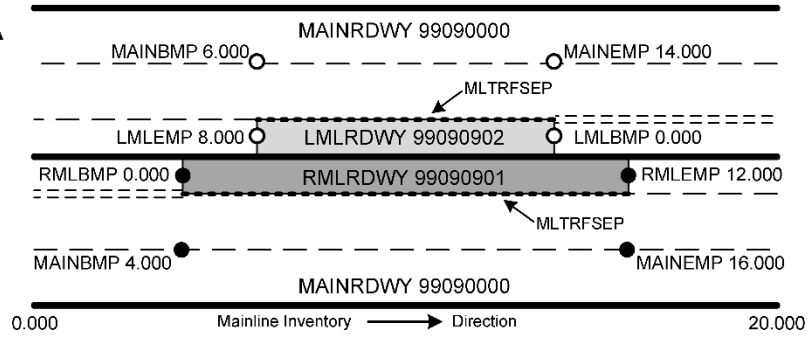
1. Code all associated features as usual.
2. Code Feature 215 RDMEDIAN as code 50.

Managed Lane, separate alignment—Refer to Case A above.

Managed Lane, same alignment—The managed lane data will be recorded in the same manner as a one-way roadway. Code Feature 214 SHLDTYPE from outside edge of lane striping to the MLTRFSEP

RCI Coding Example for Case A

Diagram



Field Data

Mainline 99090000	Right Managed Lane 99090901	Left Managed Lane 99090902
LMLBMP = 0.000	MAINBMP = 4.000	MAINBMP = 6.000
LMLEMP = 8.000	MAINEMP = 16.000	MAINEMP = 14.000
LMLRDWY = 99090902	MAINRDWY = 99090000	MAINRDWY = 99090000
RMLBMP = 0.000		
RMLEMP = 12.000		
RMLRDWY = 99090901		

Roadway ID:	Man-Dist:	Geo-Dist:	County:	Beg. MP:	End. MP:	Net Length:	Overall Status:
99090000	99	99	TEST	0.000	20.000	20.000	ACTIVE ON THE SHS
Description: MANAGED LANE CASE A MAINLINE						VideoLog	Enterprise GIS

Feature 142 - MANAGED LANES — LENGTH/NON-INTERLOCKING

Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
6.000	14.000	LEFT MANAGED LANE ROADWAY ID	99090902	EA	C		USERID 01/01/2013
6.000	14.000	LEFT MANAGED LANE BEGIN MP	0.000	MI	C		USERID 01/01/2013
6.000	14.000	LEFT MANAGED LANE END MP	8.000	MI	C		USERID 01/01/2013
4.000	16.000	RIGHT MANAGED LANE ROADWAY ID	99090901	EA	C		USERID 01/01/2013
4.000	16.000	RIGHT MANAGED LANE BEGIN MP	0.000	MI	C		USERID 01/01/2013
4.000	16.000	RIGHT MANAGED LANE END MP	12.000	MI	C		USERID 01/01/2013

Roadway ID:	Man-Dist:	Geo-Dist:	County:	Beg. MP:	End. MP:	Net Length:	Overall Status:
99090901	99	99	TEST	0.000	12.000	12.000	ACTIVE EXCLUSIVE
Description: MANAGED LANE CASE A RIGHT MANAGED LANE						VideoLog	Enterprise GIS

Feature 142 - MANAGED LANES — LENGTH/NON-INTERLOCKING

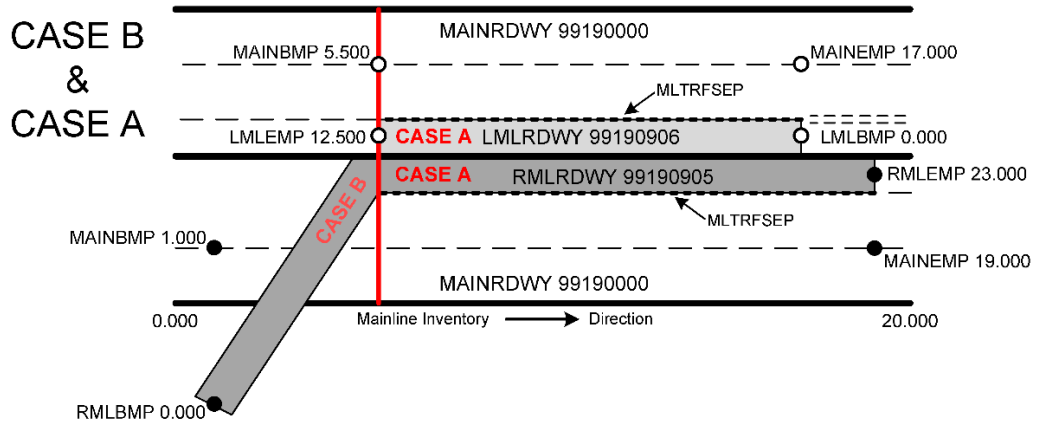
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
0.000	12.000	MAINLINE ROADWAY ID	99090000	EA	C		USERID 01/01/2013
0.000	12.000	MAINLINE BEGIN MP	4.000	MI	C		USERID 01/01/2013
0.000	12.000	MAINLINE END MP	16.000	MI	C		USERID 01/01/2013

Roadway ID:	Man-Dist:	Geo-Dist:	County:	Beg. MP:	End. MP:	Net Length:	Overall Status:
99090902	99	99	TEST	0.000	8.000	8.000	ACTIVE EXCLUSIVE
Description: MANAGED LANE CASE A LEFT MANAGED LANE						VideoLog	Enterprise GIS

Feature 142 - MANAGED LANES — LENGTH/NON-INTERLOCKING

Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
0.000	8.000	MAINLINE ROADWAY ID	99090000	EA	C		USERID 01/01/2013
0.000	8.000	MAINLINE BEGIN MP	6.000	MI	C		USERID 01/01/2013
0.000	8.000	MAINLINE END MP	14.000	MI	C		USERID 01/01/2013

Diagram



Field Data

Mainline 99190000	Right Managed Lane 99190905	Left Managed Lane 99190906
LMLBMP = 0.000	MAINBMP = 1.000	MAINBMP = 5.500
LMLEMP = 12.500	MAINEMP = 19.000	MAINEMP = 17.000
LMLRDWY = 99190906	MAINRDWY = 99190000	MAINRDWY = 99190000
RMLBMP = 0.000		
RMLEMP = 23.000		
RMLRDWY = 99190905		

RCI Coding Example for Case B

Roadway ID:	Man-Dist:	Geo-Dist:	County:	Beg. MP:	End. MP:	Net Length:	Overall Status:
99190000	99	99	TEST	0.000	20.000	20.000	ACTIVE ON THE SHS
Description: MANAGED LANE CASE B & A MAINLINE						VideoLog	Enterprise GIS

Feature 142 - MANAGED LANES — LENGTH/NON-INTERLOCKING

Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
5.500	17.000	LEFT MANAGED LANE ROADWAY ID	99190906	EA	C		USERID 01/01/2013
5.500	17.000	LEFT MANAGED LANE BEGIN MP	0.000	MI	C		USERID 01/01/2013
5.500	17.000	LEFT MANAGED LANE END MP	12.500	MI	C		USERID 01/01/2013
1.000	19.000	RIGHT MANAGED LANE ROADWAY ID	99190905	EA	C		USERID 01/01/2013
1.000	19.000	RIGHT MANAGED LANE BEGIN MP	0.000	MI	C		USERID 01/01/2013
1.000	19.000	RIGHT MANAGED LANE END MP	23.000	MI	C		USERID 01/01/2013

Roadway ID:	Man-Dist:	Geo-Dist:	County:	Beg. MP:	End. MP:	Net Length:	Overall Status:
99190905	99	99	TEST	0.000	23.000	23.000	ACTIVE EXCLUSIVE
Description: MANAGED LANE CASE B & A RIGHT MANAGED						VideoLog	Enterprise GIS

Feature 142 - MANAGED LANES — LENGTH/NON-INTERLOCKING

Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
0.000	23.000	MAINLINE ROADWAY ID	99190000	EA	C		USERID 01/01/2013
0.000	23.000	MAINLINE BEGIN MP	1.000	MI	C		USERID 01/01/2013
0.000	23.000	MAINLINE END MP	19.000	MI	C		USERID 01/01/2013

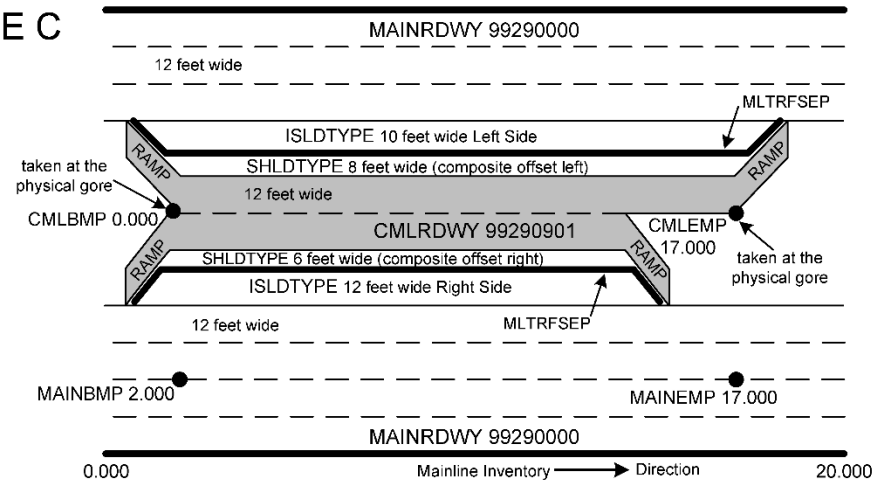
Roadway ID:	Man-Dist:	Geo-Dist:	County:	Beg. MP:	End. MP:	Net Length:	Overall Status:
99190906	99	99	TEST	0.000	12.000	12.000	ACTIVE EXCLUSIVE
Description: MANAGED LANE CASE A LEFT MANAGED LANE						VideoLog	Enterprise GIS

Feature 142 - MANAGED LANES — LENGTH/NON-INTERLOCKING

Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
0.000	12.500	MAINLINE ROADWAY ID	99190000	EA	C		USERID 01/01/2013
0.000	12.500	MAINLINE BEGIN MP	5.500	MI	C		USERID 01/01/2013
0.000	12.500	MAINLINE END MP	17.000	MI	C		USERID 01/01/2013

RCI Coding Example for Case C

Diagram



Field Data

Mainline 99290000	Composite Managed Lane 99290901
CMLBMP = 0.000	MAINRDWY = 99290000
CMLEMP = 17.000	MAINBMP = 2.000
CMLRDWY = 99290901	MAINEMP = 17.000

Roadway ID:	Man-Dist:	Geo-Dist:	County:	Beg. MP:	End. MP:	Net Length:	Overall Status:
99290000	99	99	TEST	0.000	20.000	20.000	ACTIVE ON THE SHS
Description: MANAGED LANE CASE A MAINLINE						VideoLog	Enterprise GIS

Feature 142 - MANAGED LANES — LENGTH/NON-INTERLOCKING

Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
2.000	17.000	COMPOSITE MANAGED LANE BEG MP	0.000	EA	C		USERID 01/01/2013
2.000	17.000	COMPOSITE MANAGED LANE END MP	17.000	MI	C		USERID 01/01/2013
2.000	17.000	COMPOSITE MANAGED LANE RDWYID	99290901	MI	C		USERID 01/01/2013

Roadway ID:	Man-Dist:	Geo-Dist:	County:	Beg. MP:	End. MP:	Net Length:	Overall Status:
99290901	99	99	TEST	0.000	17.000	17.000	ACTIVE EXCLUSIVE
Description: MANAGED LANE CASE C COMPOSITE MANAGED LANE						VideoLog	Enterprise GIS

Feature 142 - MANAGED LANES — LENGTH/NON-INTERLOCKING

Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
0.000	17.000	MAINLINE ROADWAY ID	99290000	EA	C		USERID 01/01/2013
0.000	17.000	MAINLINE BEGIN MP	2.000	MI	C		USERID 01/01/2013
0.000	17.000	MAINLINE END MP	17.000	MI	C		USERID 01/01/2013