WEST VIRGINIA DIVISION OF HIGHWAYS ADMINISTRATIVE OPERATING PROCEDURES SECTION V, CHAPTER 3

SECTION TITLE: HIGHWAY OPERATIONS

CHAPTER TITLE: ROADWAY FEATURE INVENTORY

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I. <u>INTRODUCTION</u>

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The Roadway Feature Inventory is a vital tool in the Maintenance Management System. The basis for performance budgeting begins with the features for which each Maintenance Organization is responsible.

Justification for budgets must begin with, not only the number of features to be maintained, but also the characteristics of those features. For example, hot-laid bituminous pavement inventoried by the lane mile is a statistic, which if not compared with such characteristics as pavement width and ADT, is nearly meaningless for budgeting. Once these features are identified with the controlling factors then it will be possible to identify the resources needed to satisfy the public demand. Once the resources are identified, assigning monetary values to them is a simple process.

Accurate feature inventories are vital to the task of planning the resources required to maintain the feature to an established level of operation. They also provide the basic steps in justifying first cost expense for improvements such that maintenance costs can be reduced. For example, widening sixteen feet of pavement to twenty four feet of pavement would surely reduce maintenance costs for some of the following reasons:

- Insufficient pavement width would force traffic to move on and off the pavement and cause excessive shoulder damage;
- This in turn leads to drainage problems and results in more potholes and/or base failures to the roadway; and
- Heavy trucks, running off the edge of the roadway, cause breakage to the pavement edge.

With all these factors combined, the result is an extra amount of man-hours being directed to the roadway. However, the improvement must be justifiable. In other words, how long will it take before the reduction in maintenance expenditures will equal the capital outlay for the improvements? A feature inventory is the first step in identifying the needs for improvements.

This Chapter of Highway Operations Procedures will provide in detail the basis on which the Roadway Feature Inventory was established and the necessary instructions for maintaining that inventory.

II. **DESCRIPTION**

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A roadway feature inventory is an up-to-date list of all the roadway features that are maintained by the DOH - such as signs, culverts, guardrail and mowable miles of right-of-way.

III. OBJECTIVE

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The primary objective of an accurate feature inventory is to provide management with the data for planning and budgeting maintenance by level of service.

IV. RESPONSIBILITIES

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- <u>DISTRICT HEADQUARTERS</u>: Responsible for conducting the inventory in conjunction with the organization and the subsequent update of the feature inventory, initially and as improvements to roadway sections occur.
- <u>COUNTIES</u>, <u>APD</u>, <u>AND INTERSTATE SECTIONS</u>: Assist the District personnel, as required, in conducting the inventory.
- <u>CENTRAL OFFICE</u>: Provide guidelines for taking the inventory and maintaining the Roadway Features File.
- FREQUENCY AND RESPONSIBILITY OF UPDATES: The Roadway Feature Inventory is an important tool to be utilized in the preparation of the Annual Plan. It supplies valuable information to the planning supervisor so that an effective Annual Plan can be developed. Therefore, accuracy of the Roadway Feature Inventory is of utmost importance.

Updates are to be made as routes are either added to the system or deleted from the system. Updates are required whenever features are changed or updated through the Maintenance Program. All updates to the Roadway Feature Inventory must be submitted to the District for further processing.

Responsibility for ensuring updates are made must be a coordinated effort between District personnel and Organizational personnel. Updates can partially be determined through the monitoring of Commissioner's Orders and PJ-103's, Report of Improvements, Additions, Abandonments, etc. (Exhibits A and B).

A large part of the updates will be prepared at the Organizational level mandated by developments such as new guardrail installation, new drainage pipe installation, new drainage structures or bridges, changes in the surface type of the roadways, etc. The responsibility extends from the District Administrator all the way down to the Maintenance Crew Leader. A combined effort on the part of <u>ALL</u> maintenance personnel is required to effectively maintain an accurate and complete Roadway Feature Inventory.

V. INSTRUCTIONS FOR TAKING THE INVENTORY

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The Roadway Feature Inventory is taken by 2 or 3 person teams, depending upon the traffic volume and quantities of features. Roadways having higher traffic volumes and quantities of features may require a 3-person team. The team will consist of a driver, a recorder (using Form MT-29, Roadway Inventory Data Collection Sheet, Exhibit C), and a person to operate/program the electronic measuring device (EMD). Roadways having lower traffic volumes and quantities of features may only require a 2-person team: a driver and a person to record and operate/program the electronic measuring device (EMD). ALL personnel are observers and share the responsibility for locating the features.

It is recommended the electronic measuring device (EMD) be used to conduct the feature inventory rather than the odometer. The recommended electronic measuring device should be an equivalent of the VIDD (Vehicle Installed Distance Device) Ash Model "S". It is imperative that the unit is calibrated over a known distance to provide accurate measurements.

In order that the electronic measuring device be used properly, it will be necessary that the operator/programmer become thoroughly familiar with the particular electronic measuring device to be used. Methods of use may vary due to the experience of the operator/programmer as well as the

application of the same.

The driving speed and the miles inventoried will depend upon the traffic volume, quantity of features and available pull off areas.

A. FEATURES TO BE INVENTORIED

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1. TRAVELWAY BY "ROAD MILE"

- a. Route Number
- b. Average Daily Traffic
- c. Surface Type
- d. Pavement Width or Unpaved Roadway Width
- e. Basic Lane Profile
- f. Functional Classification

2. SHOULDERS BY "SHOULDER MILES"

- a. PSM Paved Shoulder Mile
- b. SSM Stabilized Shoulder Mile
- c. ASM Apron Shoulder Mile (Interstate & Appalachian

3. ROADSIDE

- a. Guardrail by "Linear Feet"
- b. Delineators by "Each"
- c. Signs by "Each"
- d. Special Lanes by "Lane Mile"
- e. Intersections by "Each"
- f. Ditches by "Ditch Mile"
 - 1) Paved (Gutter)
 - 2) Other
- g. Drains by "Each/Size"
 - 1) 36" and less
 - 2) 42" and greater
- h. Minor Drains by "Each/Type" (Other than pipe) 19' or less
 - 1) Concrete

- 2) Steel
- 3) Timber
- i. Structures by "Each" 20' and greater (Bridges)

B. COMPLETION OF THE MT-29, ROADWAY INVENTORY DATA COLLECTION SHEET

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Some of the features - such as signs, delineators, and drains - are counted while other features need to be measured, i.e. road miles, ditch miles, etc. The following information will explain how to record these features on the work sheet.

- 1. <u>HEADING</u> The heading is completed before the vehicle is put in motion. In recording the information in the heading, use a new sheet each time a change in <u>any</u> of the following seven major categories occurs.
 - County, Interstate or APD Name & Organization Number
 - Route Number
 - Road Class Functional Classification
 - Average Daily Traffic
 - Surface Type
 - Basic Lane Profile (See Note)
 - Width

<u>Note</u>: Special lanes such as acceleration, passing, and other lanes are not considered changes to basic lane profiles. The following guidelines provide clarification of basic lane profile.

- 4 or 6 Lane Divided (by median strip or barrier)
- 4 or 6 Lane Undivided
- <u>2 Lane</u> Generally the basic profile. A third lane for passing, etc. does not constitute a difference in the profile. The passing lane should be counted in the special lane column. Interstate or APD interchange ramp mileage should also be counted as special lane mileage.

Complete each block of the MT-29 heading as indicated by the corresponding letters with descriptions below:

PERMA 647-25 12-22-74 REV.18-1-84

WEST VEIGNIA DIVISION OF HIGHWAYS ROADWAY ENVENTORY DATA COLLECTION SHEET

HOUSE NO. C

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a. Field Test Area

Record the map coordinates from the General Highway Map for the respective county on this line.

EXAMPLE: Field Test Area C-2

b. Road Name

Record the name of the road being inventoried on this line.

EXAMPLE: Road Name Yates Road

c. Route No.

Record the route number with the prefix of WV, US, INT, CO or Delta, and the number of this line.

EXAMPLE: WV 80

d. County

Record the County Name and Organization Number. In the instance of an Interstate or APD section, record the Interstate, Section and Organization Number.

EXAMPLE:

Interstate, I-64 (Sec. 1), 0271 County: Boone, 0103

e. Date

Record the date the field inventory is being taken.

EXAMPLE:

Date: Sept. 18, 1990

f. Travel Direction

Generally record either East, West, North, or South. If neither predominately, then use Northwest, Northeast, Southwest, or Southeast. The inventory will also be taken in the same direction as the straight-line diagrams are mapped. Also keep in mind that mileposts increase from South to North, and from West to East. EXAMPLE:

	Travel Direction:	East
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g. Page

This page number and the number of pages used for this route. EXAMPLE:

Page 1 of 4

h & i. Start/End Location

Record the starting and ending location to the nearest junction. This information will be recorded in the following format. EXAMPLE: If starting or ending at junction.

Co. 10 SLS Start Location

<u>EXAMPLE</u>: If starting or ending at at a point other than a junction.

0.1 W. Co. 10 SLS Start Location

i. One or Both Sides

Circle whether one or both sides of the road is being inventoried at the same time. Two lane highways normally would be inventoried in a single pass. Four lane highways usually require passes in both directions, the median if any, being inventoried in the first pass. EXAMPLE:

One or Both Sides

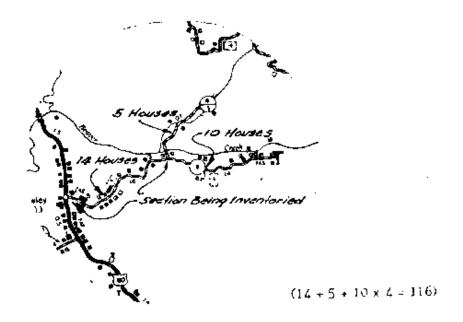
k. Class

Check Appropriate Block EXAMPLE:

CLASS								
EXPRESSWAY								
TRUNKLINE								
FEEDER								
STATE LOCAL SERVICE	Х							
PARK FOREST								
DELTA								

1. Average Daily Traffic

Record the Average Daily Traffic Count for the road section that this sheet covers. In the event that the count is not available from your traffic count maps or Planning and Research Division, then the number of houses must be counted and multiplied by a factor of four. Local service arteries that feed other local service roads should be counted also when taking a physical count of houses. EXAMPLE:



AVERAGI DAILY TRAFFIC	
0-25	
25-100	
101-400	Х
401-1000	
1001-2000	
2001-5000	
5001+	

m. **Surface Type** Check Appropriate Block.

EXAMPLE:

SURFACE TYPE						
HIGH TYPE BITUMINOUS						
LOW TYPE BITUMINOUS						
PORTLAND CEMENT CONCRETE						
PRIMITIVE - NOT PASSABLE - NO MAINTENANCE						
GRADED, DRAINED - YEARLY MAINTENANCE						
STABILIZED - ALL WEATHER - REG. MAINT.	Х					

n. Basic Lane Profile

Check appropriate block. (Roads under 16' in width are considered one lane).

EXAMPLE:

NUMBER OF LANES	
ONE LANE	
TWO LANE	Х
FOUR LANE (DIVIDED)	

FOUR LANE (UNDIVIDED)	
SIX LANE (DIVIDED)	
SIX LANE (UNDIVIDED)	

o. Width

Pavement width for paved roadways and road width for unpaved roadways. Record width to the nearest whole foot. EXAMPLE:

WIDTH	
20'	

2. MT-29 FORM - BODY SECTION

- **ROADWAY SECTION START** Record the beginning electronic measuring device reading to the nearest decimal tenths or hundredths.
- CALIBRATED SCALE The calibrated scale at the center of the page can be miles (1-5 miles), tenths (0.1-0.5 miles) or hundredths (0.01-0.05 miles). This must be written on the scale marks as shown on the example. When inventorying rural roads the scale would most likely be calibrated as miles, on dense urban roads the scale would be tenths, or in rare circumstances, the scale could be calibrated in hundredths.

EXAMPLE: (Calibrate so that fullscale equals 5 miles)

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RECORDING FIELD OBSERVATIONS With the above entries made, the team is ready to drive the road and record the quantity of each feature observed. The preceding chart shows that each of the features to be inventoried is represented by a column. Some of the columns are divided by a dashed line to represent the two sides of the road. Features will be recorded on each side of the dashed line depending on whether the features are on the right or left side of the roadway.

When a feature is observed, the recorder must indicate its quantity and location by entering a tally mark or a solid line in the appropriate column on the MT-29. For each countable feature observed, a tally mark is entered in the appropriate column across from the EMD reading where it was observed. For example, one 36" drain was observed; at this point the EMD reads 27.5 in the 36" drain column. If the recorder spots three signs and a 54" drainage structure at EMD reading 28.7, then the tally marks are placed across from the scale reading 28.7.

The chart below shows these entries:

GUARD RAR FEEY	R/W FENCE	DELM.	SIGNS	SPEC. LAMES	MTER. SECTION	5	·':	SHOULDER MELES	DATCH MALES	MOW MR.ES	SU'- DRAM	92°+ 3/AM	20° SEZE L TYPE	ZV+ BRADGE
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The quantity of a measured feature is indicated on the MT-29 by a solid straight line. Suppose a ditch runs along the right side of the road and that it begins at EMD reading 28.3 and ends at EMD reading 30.0. This is recorded on the worksheet by drawing a solid line on the right side of the column labeled "Ditch Miles" between the scale points 28.3 and 30.0 as shown below. The "U" indicates that the ditch is unpaved. If the ditch was paved you would enter "P".

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CHARA RAR FRET	R/W FENCE	DELIN	SIGHS	SP4C.	NTER- RECTION	·	.1	MOREOED MAGES	DITCH	MOW	36% DRAM	DEVE	20'- 54ZE & TYPE	BRADGE:
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If the ditch were on both sides of the road, the line would be drawn on both sides of the column. All of the measured features are recorded in this manner.

It is important to record the data accurately and completely. When recording the data, be careful to place the tally marks and solid lines in the appropriate columns and across from the center scale point where the feature was observed. When drawing the solid lines, it is not necessary to indicate intersections and bridge crossings by leaving a gap in the line. This will not greatly affect the accuracy of the inventory. For the countable features, 100% accuracy is expected. For measured features, the same degree of accuracy is not required. In many cases, the measurements are only estimates, but care should be taken to make sure these estimates are within 10% of the actual measures. To ensure that your estimates are fairly accurate, periodically spot check them by stopping the vehicle and physically measuring the feature.

Each column in the body of the MT-29 is discussed in the following subparagraphs: Refer to Exhibits C and D if any questions arise as how to enter the information.

- a. <u>Guardrail Section</u> Linear measurement keyed to EMD reading.
 Continuous lines in either half of this column indicates the presence of this feature.
- b. <u>R/W Fence</u> Linear measurement keyed to EMD reading. Continuous lines in either half of this column indicates the presence of this feature.
- c. d.<u>Delineators/Signs</u> Record in these columns at the approximate EMD reading indicating the actual count (each).
- d. <u>Special Lanes</u> Linear measurement keyed to EMD reading forms the basis of inventory for special lanes. Continuous lines in either half of this column (which have been divided to symbolize the two sides of the road) indicates the presence of this feature.
- e. <u>Intersection</u> Record each intersection on appropriate side of hash mark (centerline) and at the approximate EMD reading.
- f. Shoulder Miles Linear measurement in lane miles keyed to EMD reading. Continuous lines in either half of this column indicate the presence of this feature. This feature requires sub-classification in this column utilizing the following symbols:
 - PSM Paved Shoulder Miles
 - SSM Sod or Stabilized Shoulder Miles
 - ASM 24" Paved Apron Shoulders, such as inside shoulder of Interstate Roadways.
- g. <u>Ditch Miles</u> Record continuous lines in either half of this column in lane miles. Totals will indicate either paved gutter (P) or unpaved

(U).

<u>NOTE</u>: Asphalt or concrete paved gutter and/or curb is to be inventoried as paved gutter.

h. Mow Miles - Record the number of swath miles five foot (5') wide. Continuous lines in either half of this column indicate the presence of this feature (both sides) and indicate the number of swaths on the center scale.

Limitations on mowing should be considered. For instance, mowing beyond ditch lines should not be done except in areas where there is level terrain and brush abatement is a prime consideration. For inventory purposes, mowing in most areas will generally follow these guidelines:

State Local ServiceMaximum 2 Swath Miles/Road MilePrimaryMaximum 4 Swath Miles/Road MileInterstate & APDMaximum 12 Swath Miles/Road Mile

- <u>Drains</u> Each string of pipe will be that length that is continuous from a drop inlet, ditch line, or man-hole to its end or another drop inlet. This will be counted as "each string" of pipe. Another example would be a pipe that is across all four lanes of Interstate from ditch line to fill section but is intercepted in the median by a drop inlet. This would be considered as two strings of pipe and would be recorded as two at that milepost.
 - <u>Drains (36" <)</u> Record actual count (each string) of drains which are 36" or less in diameter at the appropriate EMD reading.
 - <u>Drains (42" ></u>) Record actual count (each string) of drains which are 42" or greater in diameter at the approximate EMD reading.
- j. <u>Minor Drainage Structures</u> Record actual count (each) of those structures which are 20 feet or less in span length and which are not pipe culverts. This feature requires a sub-classification using the following symbols:
 - C Concrete Box Culverts
 - S Steel Bridges
 - T Timber Bridges

Record actual count at approximate EMD reading.

k. <u>20' > Bridges - Record actual count (each) at approximate EMD reading.</u>

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The totals for the following counted features will be tallied and the totals entered in the appropriate blocks:

- 1. Delineators
- 2. Signs
- 3. Intersections
- 4. 36" < Drains
- 5. 42" > Drains
- 6. 20' < Size and Type Structure
- 7. 20' > Bridges

Record the structures by type as indicated. If a combination of the sub-classification exists, then the classification of the superstructure will govern as to which total block to enter the tally. For example, if a concrete steel structure is inventoried which has steel superstructures then it would be tallied in the steel sub-classification total block.

D. MEASURED FEATURES

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Enter measured features in the appropriate blocks per the following instructions.

- 1. <u>Road Miles</u> Road miles inventoried as determined by the electronic measuring device.
- 2. <u>Right-of-Way Fence</u> Record total miles of right-of-way fence as determined by the electronic measuring device.
- 3. <u>Guardrail</u> Record total linear feet of guardrail as determined by the electronic measuring device.
- 4. <u>Special Lanes</u> Record the sum of lane miles as determined by the electronic measuring device.
- 5. <u>Shoulder Miles</u> Record the sum of lane miles by subclassification as determined by the electronic measuring device.
- 6. <u>Ditch Miles</u> Record total lane miles by subclassification as determined by the electronic measuring device.
- 7. <u>Mow Miles</u> The total mowable swath miles as determined by the electronic measuring device.

Example: One 5' (five foot) swath, one mile long, or two 5' (five foot)

E. SUMMARY

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Each feature inventoried on the MT-29's will be totaled and recorded in the space provided at the bottom of the MT-29. Staple the MT-29's together where two or more pages were used to inventory a particular roadway.

<u>NOTE</u>: On roadway sections requiring more than one MT-29 to be used, it is <u>important</u> to assure that ALL pages are combined into one total before entering the information on the MT-45 Form.

F. TIME SPENT

Record the time spent taking the actual field inventory. At the end of each day, each sheet is summarized and signed by the individuals taking the inventory.

The MT-29 Form is to be stored for reference and verification that the updates have been processed. The MT-29 Forms will be disposed of in accordance with the Division's current Records Retention and Disposal Schedule.

VI. MAINTENANCE OF ROADWAY FEATURE INVENTORY FILES

At the organizational level, the Roadway Feature Inventory files are available in the format of a hard copy report. Two types of reports are generated: (1) Organizational Detailed Report, and (2) Organizational Summary Report.

• Following is a one page example of: (1) Organizational Detailed Report.

POUTE &	C=COUNTY	CLASS / ROAD L=ST/LOCAL	AVR DAY TRE SUR/TY NUMBER / LAMES HD HILES RAIL MILES INT SGM LAMES SEC 1. INT SINCE DEL- NO. SPECL. INT SINCE DEL- NO. SP
9017 3	TYPE / QOUTE	CLASS / ROAD	AVE CAY TRE SUR/TY NUMBER / LANES HO MILES RAIL MILES INT SGH LANES SEC 18 0.4 0 0.0 0 3 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0
3017000	D=DECTA	J=DELTA	
ROUTE &	TYPE / ROUTE C=COUNTY	CLASS / ROAD L=ST/LOCAL	AVR DAY THE SUR/TY NUMBER / LANES WD ROAD GUARD FERCE DEL- NO. SPECL. INT 2= 26-100 6= UPG 2=THO LANE 15 2.8 0 0.0 0 2 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0
ROUTE 4	TYPE / ROUTE	CLASS / ROAD	AVR DAY TRE SURVIY NUMBER / LANES HO MILES RAIL NILES INT SGN LANES SECTION OF SHOULDER MILES DITCHING MOWING
601/064	C=GOUNTY	L=ST/LOCAL	
ROUTE 9	IYPE / ROUTE	CLASS / ROAD	AVR DAY TRE SUR/TY NUMBER / LAMES ND ROAD GUARD FENCE DEL- NO. SPECL. INT 3= 101-400 1= HTB 2=TWO LAME 16 0.8 0 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
001/084	C=COUNTY	L=ST/LOCAL	
ROUTE #	TYPE / ROUTE	CLASS / ROAD	AVR DAY TRE SUR/TY HUMBER / LAMES HD ROAD GUARD FENCE DEL- NO. SPECL. INT SER LAMES SEC 18 0.5 0.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
001/005	C=COUNTY	L*ST/LOCAL	

The detailed report is a listing of the information contained in the Roadway Feature Inventory file for the particular organization. The information is in route number sequence detailing the individual features as they were inventoried.

• Following is an example of: (2) Organizational Summary Report.

DINICION - MAINLÉNANCE Débre Je Méri - Michipà Zivie Je Méri Airoinén	HAZNTENANCE MANAGEMENT Roadway inventory sumhary	RÉPORT NO. HAHO30P1 PG 60088 CURRENT DATE - 02/20/90 REPORT DATE - 02/20/90
ONG1941 LANE WILES ROAD SORF YILES EXP TRUK FEED SLS P/F DELT		TCH HOW DRAINS DRAIN STRU BRIDDE Les Miles 20 ft. or 20 ft. Less or 4
NTV 555 14 56 175 577 5 L7B 127 9 7 165 6 PCC 6 25 1 UPUM 24 24 UPUM 19 18 1 UPC 177 186 21 UPS 160 213 11	[92628 2093 4689 PSM UPAVI SSM 868 PAVE ASM 702	
TOT 845 I4 75 207 985 44)570	808 ***** · · · · · · · 4845 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \

This report summarizes all of the features inventoried within the organization. The number of road miles and lane miles are categorized by surface type and functional classification. The lane miles are determined by multiplying the number of lanes by road miles and then adding the number of special

lanes to the results.

The summary categories for other features are as follows:

Shoulder Miles: Paved Shoulder Miles (PSM)

Stabilized/Sod Shoulder Miles (SSM)

Apron Shoulder Miles (ASM)

<u>Ditch Miles</u>: Unpaved

Paved

<u>Drains</u>: 36" or less

42" or greater

<u>Drainage Structures</u>: Concrete 20' or less Steel

Timber

Guardrail, Delineators, Signs, Mow Miles and Bridges are one sum total. The sum total of the other features can be found in the "Total" line at the bottom of the summary.

A District Summary is generated containing roadway feature totals for all the organizations within the District. A Statewide Summary containing roadway feature totals for all the organizations in the State is also available. District summaries will be kept in the respective District Maintenance Headquarters and Statewide summaries will be maintained by Highway Operations Division.

When modifications to the Roadway Feature Inventory are necessary, three types of updates can be made.

<u>ADD</u> - Adds will be completed for roadways that do <u>not</u> currently exist on the Roadway Feature Inventory. Adds will mainly be generated by roadways that have been taken into the system. (Form PJ-103's/Commissioner's Orders)

<u>DELETE</u> - Deletes will be completed for an existing roadway on the Roadway Feature Inventory that needs to be removed. Deletes will mainly be generated by roadways that are abandoned by the system. (Form PJ-103's/Commissioner's Orders)

<u>CHANGE</u> - A change will involve the alteration of "any" field (including key fields) of an existing roadway on the Roadway Feature Inventory. The "Change" update will be the function used most frequently.

On the following pages, examples and step by step instructions for the completion of the different types of updates are given.

The MT-45, Roadway Feature Inventory Summary Form (See Exhibit F), is to be completed for each roadway that needs to be added to the existing Roadway Feature Inventory file.

THE MT-45 FORM WILL ONLY BE USED FOR "ADDS"

• EXAMPLE for "ADD":

State Local Service Route 83/40 in McDowell County has been added to the system through a Commissioner's order. An ADD will be completed as follows.

<u>STEP 1</u>: Gather the roadway feature information on SLS 83/40. Information is as

follows:

Information is as follows:

ORGANIZATION: 1024

PREFIX: County ROUTE: 083/040

CLASS: State Local Service

AVERAGE DAILY TRAFFIC: 26-100

SURFACE TYPE: Graded/Drained/Yearly Maint.

NUMBER OF LANES: Two Lane

WIDTH: 16'
ROAD MILES: 0.6
GUARDRAIL: 150'
SSM SHOULDER MILES: 1.2
UNPAVED DITCH MILES: 1.2

MOW MILES: 0.8 36" - DRAINS: 2

CONCRETE DRAINAGE STRUCTURES 1

<u>STEP 2</u>: Complete the appropriate blocks on the MT-45, Roadway Inventory Summary (see Exhibit G). The Supervisor is to sign and date the form at the bottom right hand corner.

<u>STEP 3</u>: Submit to the District Management Analyst for further processing. Attach Commissioner's order if available.

• EXAMPLE FOR "DELETE":

Raleigh County State Local Service Route 020/003 has been abandoned from the system by a Commissioner's Order.

<u>STEP 1</u>: Using the organizational "hard copy" Roadway Feature Inventory Report, locate State Local Service Route 020/003.

"NOTE": Carefully review the <u>complete</u> entry to assure it is the roadway section to be deleted."

STEP 2: Make a copy of the Roadway Inventory page of the roadway section to be deleted.

<u>STEP 3</u>: Using a colored highlighter marker, highlight the Route Number to be deleted and write "DELETE" below it as shown in the following example.

STATE OF WEST VIRGINIA DEPARTMENT - MIGHNAYS DIVISION - MATNTENANCE

HAINTENANCE MAHAGEMENT ROADMAY INVENTORY LISTINO 1341-94LEICH COUNTY MEADQUARTERS

REPORT HUMOZOPI PG. 3126 CURRENT DATE - 02/20/90 REPORT DATE - 02/20/90

ROUTE 1 026/000	TYPE / ROUTE Cicoukty	fazistocyt Crazz v vopp	<u>AVR DAY TRE SURVIY HUMBER / LAN</u> 4± 401-1000 I= NTB 2=TWO LANE		, ,,,	DEL- NO. SPECL. INT 11HT SGN 1ANES SEC. 0 10 0.0 2
			SHOULDER MILES DITCHIN <u>P3M </u>	O'D 1'8 WAED WITER.	36-4	ORMATICM HUMBER RT <u>sleet limber bricges</u> g g g
<u>AQUTE B</u>	TYPE / ROUTE	C(155 / RO1D (=57/LOCAL	AVR DAY TRE SURVEY NUMBER / LAN G= GOT-1000 2= LTB 1=OKE LANE	RD ROAD HILES 12 1.3	OUARD FENCE RAIL MILES 0.3	DEL- NJ. SPECL. 1NT- <u>THI SQN LANES SEC</u> 0 2 0.0 2
			\$HOV(DER MILES DITCHIN \$HOV(DER	O MOMING AVED MILES O.0 1.3	36 (* .42 > 2002)	RMATION NUMBER RESTREET TEMBER BRIDGES
ROUTE 1 020/000	TYPE / ROUTE	CLASS / 8010 040EL/A	AVR DAY TRE SURVIY HUMBER / LAN 2= 26-100 6= UPG 1=QNE LANE	RD ROAD 15 WD MILES 10 D.2	GUARD FENCE RAIL MILES	DEL- NO SPECL. INT
			SNOULDER MILES DITCH [F SNOULDER MILES DITCH [F SNOULDER MILES DITCH [F SNOULDER MILES DITCH [F SNOULDER MILES DITCH [F		36 (2 <u>42 >2 CONCE</u> 2 0 0	IRMATION HUMBER RI STEEL TEMBER BRIDGES 0 0
PDUTE D 020/001	CACOUNTA	CLASS / POAD Lest/Eggal	479 DAY 19F SUR/TY MUMBER / LAN	RD ROAD 15 NO 111ES 16 0.1		DEL- HD. SPECL FINT 1NT SGH 12NES SEC 0 0 0 0.0 0
			SHOULDER MILES DETCHEN PSM	AVED MILES	ORATH LINFO 36. (= 42 >= cong: 1 0	DEMATION NUMBER RI STEEL TEMBER BREIGES
90UYE \$ 02G/002	TYPE / POUTS	CLASS / RGAD L=ST/LOCAL	AMR DAY TRE SURVEY NUMBER / LAN J= 101-400	RD ROAD ES WO MILES 18 0.4	QUARD FENCE RAIL MILES 0 0.3	DEL- NO. SPECL. INT INT SON LANCE SEC 0 0.0
-			SMOULDER MILES DITCHIN <u>PSM </u>			ORMATION HUMBER RT <u>Steel Timber Bridges</u> O D

<u>STEP 4</u>: The Supervisor is to sign and date the bottom of the copy in addition to attaching proper justification such as a Commissioner's Order or other written remarks.

STEP 5: Submit to the District Management Analyst for further processing.

• EXAMPLE FOR "CHANGE": Two Examples follow

It is important to remember that when making a change the new data entered will replace the old data. Also reference will have to be made to Form MT-45, (Exhibit F) to determine proper codes for the various features.

EXAMPLE 1:

Wyoming County State Local Service Route 016/001 has been upgraded from an Unpaved Graded Surface Type to a Surface Treated Surface Type or Code #2 for Surface Type, Low Type Bituminous.

<u>STEP 1</u>: Using the organizational "hard copy" Roadway Feature Inventory Report, locate SLS 016/001.

<u>STEP 2</u>: Make a copy of the Roadway Inventory page of the roadway section to be changed.

<u>STEP 3</u>: Using a colored highlighter marker, highlight the Route Number to be changed and write "CHANGE" below it.

Highlight the field to be changed, "SUR/TY" and write the proper correction below it as shown in the following example:

ROUTE : 016/006	<u>1486 / 90076</u> Web. 94.	CLASS / ROAD	20 ROAD GUARD FENCE DEL- HO. SPECL. INT STITUTION SPECE SP
ROUTE *	170E / ROUTE Waw. Ya.	CLASS / ROAD Totrunkling	AVR DAY TRE SURVIY HUMBER / LAMES HO HILES AAIL MILES INT SGM LAMES SEC 5-1001-2000 1- HTS 2-TWO LAMES 26 0.1 0 0.0 0 20 0.0 0 0 0 0 0 0 0 0 0 0 0 0
	COUNTY IN	CLASS / ROAD LEST/LOCAL	AVR DAY THE A SUBSTYTE NUMBER / LAMES HD MILES RAIL MILES INT 3GN LAMES SEC 22 28-100 22-100 LAMES HD MILES RAIL MILES INT 3GN LAMES SEC CONTROL RAIL FOR AN INFORMATION MUMBER
1 3 THICH 500 VALO	TYPE / ROYFE CECOUNTY	CLASS / MOOD L:ST/LOCAL	AVR CAY TRE SUR/TY NUMBER / LANES NO WILES RAIL MILES INT SGN LAMES SECTION 10 10 10 10 10 10 10 10 10 10 10 10 10
ROUTE E Cley Dûz	TYPE / ROUTE CICOUNTY	CL1SS / 2013 C11SS / 2013	PSM SSM ASM UNPAYED PAYED MILES 36 <= 42 PE CONCRY STEEL TIMESE RELIGIOS

<u>STEP 4</u>: Place any remarks at the bottom of the sheet accompanied by the Supervisor's signature and current date.

<u>STEP 5</u>: Submit to the District Management Analyst for further processing.

EXAMPLE 2: "CHANGE":

McDowell State Local Service Route 001/000 needs to have the guardrail feet increased from the current 528' to 1200' due to new installation.

<u>STEP 1</u>: Using the organizational "hard copy" Roadway Feature Inventory Report, locate SLS 001/000.

<u>STEP 2</u>: Make a copy of the Roadway Inventory page of the roadway section to be changed.

<u>STEP 3</u>: Using a colored highlight marker, highlight the Route Number to be changed and write "CHANGE" below it.

Highlight the field to be changed, GUARDRAIL and write the proper correction below it as shown in the following example:

MAINTENANCE MANAGEMENT ROADWAY INVENTORY LISTING LCZS-MCDOMELL COUNTY MEADOWARTERS

REPORT HAHOZOF1 PG. 2909 CURRENT DATE - 02/28/90 REPORT DATE - 02/23/90

	CLASS V ROAD.	"AVR DAY TEE SURVIV HUMBER / LANES HE HITE SEC DEL- MO. SPECL. INT 4= 401-1000 T3 HTB T-ONE LANE HO MILES THE SEC DEL- MO. SPECL. INT 4= 401-1000 T3 HTB T-ONE LANE HOWER HOWER DEL- MONING THE INFORMATION
ROUTE TYPE / ROUTE C=COUNTY	CLISS ✓ ROAD CEST/CCCA.	AVR DAY TRE SURVIY NUMBER / LANES HO ROAD - GENCE DEL- NO. SPECL INT SOR LANES SEC NIES GOI-1000 1 HTS 1-088 LANES HO WILES FAIL MILES THE SOR LANES SEC NO 12 0.0 6 SMOULDER MILES DITCHING MONING DRAIN INFORMATION MUMBER PRINCES FOR MILES SEC NIES SEC
ROUTE 1 TYPE / ROUTE BOLVOOL C-COUNTY	<u>CLASS / ROAD</u> L≖ST/LOGAL	AVR 24Y TOF SUR/TY NUMBER / LANES NO MILES SAIL MILES THE SEC LANES SEC OF SHOULDER MILES DITCHING MONING DRAIN INFORMATION NUMBER NUMBER SHOULDER MILES DITCHING MONING DRAIN INFORMATION NUMBER NUMBER SHOULDER MILES DITCHING MILES 36 <- 42 >> CONCRI SIEL INMER BRIDGES DITCHING DITCHING DRAIN INFORMATION NUMBER DITCHING
POLITE 1 TYPE / ROUTE	C1485 / R04B [*ST/LOCAL	AVR CAT TRE SUBJECT NUMBER / LAMES HO ROAD DUAND FENCE DEL- NO. SPECE. INT SER LAMES SEC OF COLOR OF THE SERVICE SHOULDER MILES DITCHING MONING
ROUTE TYPE / ROUTE C=COUNTY	<u>CLASS / ROAD</u> LªST/10CAL	AND ROAD GUARD FENCE CEL- NO. SPECE INT AND ROAD GUARD FENCE CEL- NO. SPECE INT SEC OF THE SURVEY HUMBER LANES HO MILES RAIL MILES INT SEN 1485 SEC OF THE SEC OF T

<u>STEP 4</u>: Place any remarks at the bottom of the sheet accompanied by the Supervisor's signature and current date.

STEP 5: Submit to the District Management Analyst for further processing.

After preparing Adds, Changes or Deletes it is recommended to maintain a copy for the organization's file before submitting to the District.

VII. ROADWAY FEATURE INVENTORY LISTINGS

Republished: 11/1/2000 Effective: 12/1/90

Updated Roadway Feature Inventory Listings will be provided by Highway Operations Division to the Districts as deemed necessary by updates or as requested.

VII. EXHIBIT A. - COMMISSIONER'S ORDER - EXAMPLE

COMMISSIONER'S ORDER - EXAMPLE

]	HE PERT VIROINIA DEPARTMENT OF HIDDIWAYS CHARLESTON, WEST VINGINIA
) [] [] ["130 Ay , W	II Jen	ABSTRACT FROM THE RECORDS OF THE COMMISSIONER'S ORDERS DATED
FEB	02 1988	
Princ District	ion, VI. Va. NGINTER OFFICE	January 22, 1986
Distribution.	Pulsant to authorien	
?C	17 Newl-1- no	vested in the Commissioner by Chapter
W .	77, Acticle 2A, Section 8	of the Official Code of West Virginia
(P	1931, as amended, the Comm	designer, upon recommendation of the
		sion, and conductence of the Director
UI Or	Planning Division, Chief E	ingineer Maintenance and the State

VII.	EXHIBIT B REPORT OF IMPROVEMENTS, ADDITIONS, ABANDONMENTS, FORM PJ-103

FORM FJ-103 RAY, 7: 30:74 SHEET NO. 1 OF 3 (INIS SHEET FOR BOTH, ROADS AND BRIDGES)

WEST VIRGINIA DEPARTMENT OF HIGHWAYS

REPORT OF IMPROVEMENTS, ADDITIONS, ABANDONMENTS

REPORT NO.	
DATE	

1. County:	2. Route No.: 3. FA or FA	t C Proper No. 4 Formal Series	/Y T E D.
6. Project No.:	6. Miles of New Roads	7. Contract. Wate Forces or Prison Tubor?	(A ₁ 1 ₁ F ₁ 0F
8. Date Completed:	9. Were Plans Prepared?:		11.1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1
11. Location of Work by	y Local Names and Nature of Change (Construction, R	teroastruction, Widening, Adéltion, Abandonment,	etc.):
	UNIT AS BUILT		MIT AS RECTRED
Base (Type and Kind): ,		Base (Type and Kind):	
Depth in Inches:	Year Buili;	ì	Year Built
Surface (Kind):			
Depth in Inches:			Year Built:
			Width of Grade (Feet):
,		NALYSIS OF CHANGES	
	Disposition of Unit as Refered, with Corresponding Mil	kages of New Roads, (Show Mileage to Thousands)	of Male)
Che	ck Authority for Mikuge of New Road:—Present Log.		
MILES OF NEW ROAD			MILES OF ROAD REPLACED
(l):	Bull on Same Location, Old Road Torn Up, No Alten	npt at Salvage (Location Identical),	
(1);	Built on Same Location, this Road Used as Base for N	ew Surface (Bitaminous Treatment, etc.)	
(3):	Built on Same Location, Old Road Vised as Foundation	for New Payentent (Old Payennet) Used for Sub-	Base, etc.)
	Built on Sume Locution, by Widening Old Road, Reta		
(5):	Built on or Neur Sume Location by Realigument, Repli	wing Old Road, Old Road Not to Be Used Furth	(I
(b):	Built on New Location, Old Road Abandoned, Net to B	de Used Further	TITE VI VI
	Built on New Location, Old Rand Transferred to Other	Stute System Burel	
(\$)r	Built on New Location, Karut, No Change in System	Status of Old Road (Addition)	X X X X X
· · · · · · · · · · · · · · · · · · ·	Built on New Location, in Municipality, No Change in	States of Old Road (Addition)	XXXXX
(10):	Built on New Location in Municipality, Old Road to Re-	vert to XImmicipality	
(11);	Built on Road Transferred from fither State System, Ob	t Road Abandoard, Not to Be Used Further	
	Built on Roud Transferred from Other State System, Ol		
(D):	Bellt on Road Transferred from Non Slute System, Rur	al, Old Hourt Abandoned, Not to Be Used Further	
	Bulli on Road Transferred from Noo-State System, Rus	al, Old Road Transferred to Other State System.	
	Built on Road or Street Transferred from Municipal St		
(I b):	Addition to State Highway System		
	L MILES OF NEW ROAD MILE POST	TO MILE POST TOY.	AL MILES OF ROAD REPLACED:

VII.	EXHIBIT C ROADWAY INVENTORY DATA COLLECTION SHEET	, FORM MT-29

FORM MT-24 10-29-73 REY.I#-1-90

WEST VIRGINIA DIVISION OF HIGHWAYS ROADWAY INVENTORY DATA COLLECTION SHEET

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VII. EXHIBIT D. - ROADWAY INVENTORY DATA COLLECTION SHEET, FORM MT-29 - COMPLETED EXAMPLE, PAGE 1

WEST VIRGINIA DIVISION OF HIGHWAYS ROADWAY INVENTORY DATA COLLECTION SHEET

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VII. EXHIBIT E. - ROADWAY INVENTORY DATA COLLECTION SHEET, FORM MT-29 - COMPLETED EXAMPLE, PAGE 2

FORM MT-25 10-29-73 REY.10-1-50

WEST VIRGINIA DIVISION OF HIGHWAYS ROADWAY INVENTORY DATA COLLECTION SHEET

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COUNT	Y D	dds	ોંદ			DATE 3-	1-90		DIREC	EL TION	N		200 2
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тиликане 26-100			LOW T	LOW TYPE SITURMOUS			TWO LAME			<u> </u>			
FEEDEN 101-400			FORTL	FORTLAND CEMENT CONCRETS			FOUNT LANE (DIVIDED)]			
STATE LOCAL 4D 1-1000		·	PRIMITI	PRINTIVE-NOT PASSABLE-NO MAINTENANCE			FOUR LANE (LUENVISED)						
PARK FOREST 1001-2000			PASSAI	PARSABLE IN SEASON-LITTLE/NO MARIT.			BIX LAME (CHARGED)]			
PELTA			2001-6000		GRADEI	, ORAMED-YEARLY M	ANTENANCE		S/X L	AME (UHC)	Y1080)	1	
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GUARO RAIL FEET	A/W FEMCE	DELM	SiGNA	SPEC. LAMES	WTER- DECTION	 \$	SHOULDER MALES	DATCH MR.ES	HOW	34°-	42°+ DRAM	20'- \$12E & TYPE	20"4 BRIOGE
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VII.	EXHIBIT F.	- ROADWAY FI	CATURE INVENTOR	Y SUMMARY, FORM MT-45
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WY DIVISION OF HIGHWAYS

Readray Esature Investory Symmaty

(FOR "ADDS" ONLY)

ORGANIZATION:	SURPACE TIPE:	SHOULDER MILES:
PREPIT:	#igh Type Bituminous = 1 Low Type Bituminous = 2 Codes Portland Cement Concrete = 3	PSK (Paved) (Sho Mi/Tenths) SSM (Stabilized) (Sho Mi/Tenths) ASK (Apron) (Sho Mi/Tenths)
Codes US = U	PrimNot Pass-No Naint = 4 Pass In Season-Little No Naint = 5 Graded/Drained/Yearly Naint = 6 Stabil/All Weather/Reg Maint = 7	DITCH KILBS: Unpaved (Hiles/Tenths) Paved (Kiles/Tenths)
Primary Additional	NUMBER OF LAMES:	MOR MILES: . (Ni les/Tenths)
ROUTE:/	One-Lane = 1 Two-Lane = 2	<u>DRAINS:</u> 36"(Bach)
CLASS;	Codes Pour Lane (Olvided) = 3 Pour Lane (Undivided) = 4	(2* + (Each)
Codes Trunkline = T Feeder = F St/Local = E	Six Lane (Divided) = 5 Six Lane (Undivided) = 6	ORALINAGE STRUCTURES: Concrete (Bach) Steel (Bach)
Park/Porest = P Delta = D	VIDTA: (Yeat) ROAD MILES: (Miles/Tenths)	flaber (Bach)
AVERAGE DAILY TRAFFIC:	GUARDRAIL: Peet	BRIDGES: 201 + (Bach)
TIODUNE AUTOR TURKETO	PRACE (Nilse/Tenthe)	

VII.	EXHIBIT G ROADWAY FEATURE INVENTORY SUMMARY, FORM MT-45 - COMPLETED EXAMPLE

Hertsed 3-1-90 OF NICHORYS OF NICHORYS OF NICHORYS

(POR "ADDS" QULY)

ORGANIZATION: 1024	SURPACE TYPE:	SHOULDER KISHS: PSK (Paved),(Sho Ki/Teaths)			
PREFIX: C	High Type Bituminous = 1 Low Type Bituminous = 2 Codes Portland Cement Concrete = 3	SSM (Stabilized)			
Codes US = U Interstate = I County = C Delta = D	PrimMot Pass-Ho Haint = { Pass in Season-Elttle No Haint = 5 Graded/Drained/Yearly Haint = 6 Stabil/All Heather/Reg Haint = 7	OTTCH MILES: Unpaved			
Primary Additional	NUMBER OF LANES: 2	MOR MILES: 8 (Miles/Tenths)			
ROUTE: 083/040	One-Lane = 1 Two-Lane = 2 Codes Four Lane (Divided) = 3	DRAINS: 36"			
Express = I Codes Trunkline = T	Four Lane (Undivided) = 4 Six Lane (Undivided) = 5 Six Lane (Undivided) = 6	DRAINAGE STRUCTURES:			
Peeder = P St/Local = L Park/Porest = P Delta = D	VIDTE: 1 (Feet)	Concrete (Bach) Steel (Bach) Timber (Bach)			
O. L. L.	ROAD M(LBS: <u>6</u> (Miles/Tenths) GUARDRATL:	BRIDGES: 26' + (Rach)			
AVERAGE DAILY TRAFFIC: 2	ANUMARITY - T T T T (1550)	BRIDGES: 20' + (Rach)			