



MODEL INVENTORY OF ROADWAY ELEMENTS (MIRE)

JANUARY 2020

CALTRANS

WHAT IS MIRE?

- TRAFFIC SAFETY DATA HAS THREE COMPONENTS
 - COLLISIONS
 - INVENTORY OF ROADWAY ELEMENTS
 - VOLUMES
- ALL THREE COMPONENTS OF SAFETY DATA ENABLE DATA DRIVEN SAFETY ANALYSIS THAT SUPPORTS THE “TOWARDS ZERO DEATHS” EFFORT
- MIRE IS A FEDERAL RECOMMENDED GUIDELINE FOR THE INVENTORY AND VOLUMES PORTIONS OF TRAFFIC SAFETY DATA

FEDERAL HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

- IN 2016 FEDERAL RULEMAKING AMENDED THE HSIP
- SAFETY PERFORMANCE MANAGEMENT (SAFETY PM) WAS INTRODUCED FOR ALL PUBLIC ROADS
- IT INCLUDED TARGETS FOR FATAL & SERIOUS INJURY COLLISIONS AND A PLAN TO ACHIEVE THE TARGETS (STRATEGIC HIGHWAY SAFETY PLAN FOR STATEWIDE AND REGIONAL TRANSPORTATION PLANS FOR REGIONS)
- IT REQUIRED A SUBSET OF MIRE TO BE IN PLACE BY 2026
- THE SUBSET OF MIRE IS TITLED “FUNDAMENTAL DATA ELEMENTS” (FDE)

Table 1 – MIRE Fundamental Data Elements for Non-Local (based on functional classification) **Paved Roads**

MIRE Name (MIRE Number)^	
Roadway Segment	Intersection
Segment Identifier (12)	Unique Junction Identifier (120)
Route Number (8)*	Location Identifier for Road 1 Crossing Point (122)
Route/street Name (9)*	Location Identifier for Road 2 Crossing Point (123)
Federal Aid/ Route Type (21)*	Intersection/Junction Geometry (126)
Rural/Urban Designation (20)*	Intersection/Junction Traffic Control (131)
Surface Type (23)*	AADT (79) [for Each Intersecting Road]
Begin Point Segment Descriptor (10)*	AADT Year (80) [for Each Intersecting Road]
End Point Segment Descriptor (11)*	Unique Approach Identifier (139)
Segment Length (13)*	
Direction of Inventory (18)	Interchange/Ramp
Functional Class (19)*	Unique Interchange Identifier (178)
Median Type (54)	Location Identifier for Roadway at Beginning Ramp Terminal (197)
Access Control (22)*	Location Identifier for Roadway at Ending Ramp Terminal (201)
One/Two-Way Operations (91)*	Ramp Length (187)
Number of Through Lanes (31)*	Roadway Type at Beginning Ramp Terminal (195)
Average Annual Daily Traffic (79)*	Roadway Type at Ending Ramp Terminal (199)
AADT Year (80)*	Interchange Type (182)
Type of Governmental Ownership (4)*	Ramp AADT (191)*
The number in “()” refers to the MIRE number in MIRE 1.0.	Year of Ramp AADT (192)*
	Functional Class (19)*
	Type of Governmental Ownership (4)*

^Model Inventory of Roadway Elements—MIRE, Version 1.0, Report No. FHWA-SA-10-018, October 2010,

Table 2- MIRE Fundamental Data Elements for Local (based on functional classification) Paved Roads

MIRE Name (MIRE Number)^
Roadway Segment
Segment Identifier (12)
Functional Class (19)*
Surface Type (23)*
Type of Governmental Ownership (4)*
Number of Through Lanes (31)*
Average Annual Daily Traffic (79)*
Begin Point Segment Descriptor (10)*
End Point Segment Descriptor (11)*
Rural/Urban Designation (20)*

The number in “()” refers to the MIRE number in MIRE I.0.

Table 3- MIRE Fundamental Data Elements for Unpaved Roads FC 1 to 7

MIRE Name (MIRE Number)^
Roadway Segment
Segment Identifier (12)
Functional Class (19)*
Type of Governmental Ownership (4)*
Begin Point Segment Descriptor (10)*
End Point Segment Descriptor (11)*



BENEFITS OF MIRE

- SUPPORTS PERFORMANCE MEASURES
- ALLOWS ENHANCED SAFETY ANALYSIS, THAT CAN BE INCORPORATED INTO SAFETY PLANS
- ENABLES DATA DRIVEN DECISIONS TO BE MADE FOR SAFETY INVESTMENTS
- CAN BE USED STATEWIDE, REGIONALLY, AND LOCALLY

FUNDING SOURCES AVAILABLE FOR MIRE

- FEDERAL HSIP FUNDS
- FEDERAL TRAFFIC RECORDS FUNDS
- FEDERAL STATE PLANNING & RESEARCH (SP&R) FUNDS
- STATE FUNDS
- REGIONAL AND LOCAL FUNDS

STEPS TO ACHIEVE MIRE BY 2026

- DATA GOVERNANCE
- CLOSE COORDINATION BETWEEN FEDERAL, STATE, AND LOCAL AGENCIES
- COLLECTION/INTEGRATION OF MIRE DATA
- STORAGE OF MIRE DATA
- MECHANISM TO REGULARLY UPDATE & MAINTAIN MIRE DATA

DATA GOVERNANCE

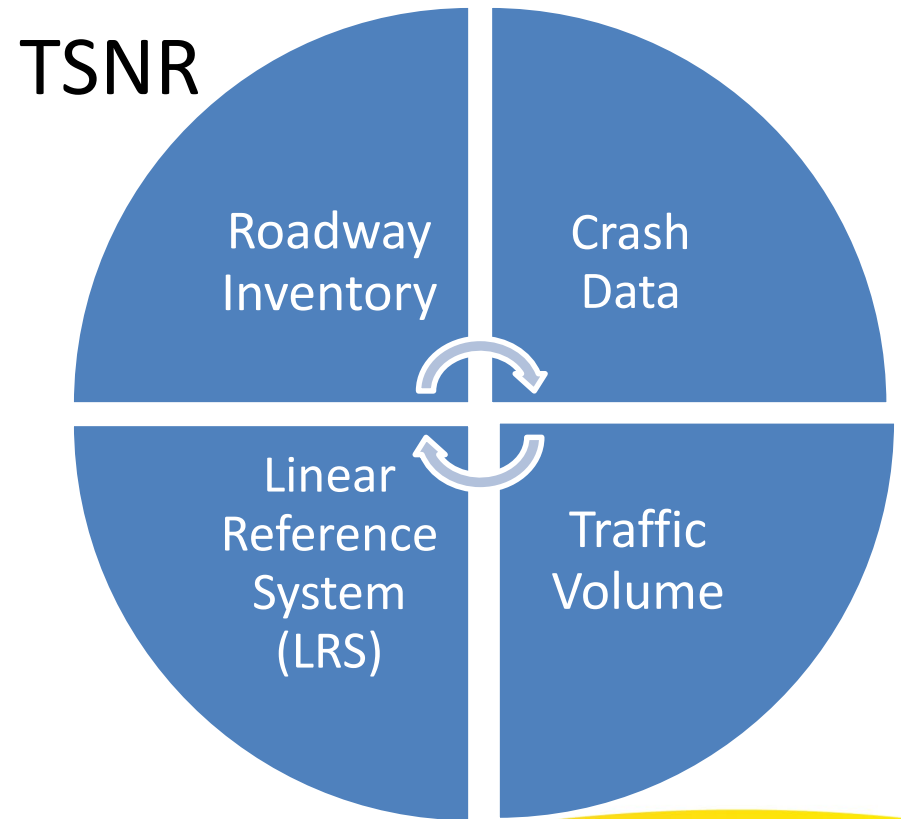
- DATA GOVERNANCE TEAM BEING FORMED
- DATA GOVERNANCE FOR MIRE DATA
- WHO WILL COLLECT THE DATA?
- WHO WILL UPDATE THE DATA?
- WHO WILL MAINTAIN THE DATA?
- WHO WILL OWN THE DATA?

DATA COLLECTION

- INITIAL COLLECTION STATEWIDE OR BY EACH LOCAL AGENCY?
- ON-GOING COLLECTION STATEWIDE OR BY EACH AGENCY?
- MAINTAINING DATA ACCURACY & CONSISTENCY

STORAGE OF DATA

- CURRENT INFORMATION TECHNOLOGY PROJECT CALLED TSNR – TRANSPORTATION SYSTEM NETWORK REPLACEMENT



MIRE PROJECT STATUS

- MIRE FDE PRELIMINARY GAP ANALYSIS - [MAY 2017](#)
- TRCC (TRAFFIC RECORDS COORDINATING COMMITTEE) MIRE FDE PROJECT MANAGEMENT PLAN (SAFETREC UCB) - [JUNE 2017](#)
- MIRE DATA COLLECTION AND MANAGEMENT PLAN (DRAFT) - [JUNE 2018](#)
- CALTRANS MIRE FDE PROJECT CHARTER - [MAY 2018](#)
- TRCC EXECUTIVE MEETING MIRE PRESENTATION - [JUNE 2018](#)
- TSNR DATA GOVERNANCE COMMITTEE - [DECEMBER 2018](#)
- ANNUAL PAVEMENT CONDITION SURVEY 2020 COORDINATION - [ONGOING](#)
- COORDINATION WITH LOCAL PARTNERS - [ONGOING](#)

UPCOMING STEPS

- DATA GOVERNANCE
- DATA COLLECTION ASSESSMENT

REGIONAL AND LOCAL SUPPORT

- COORDINATION WITH LOCAL PARTNERS AND COLLECT LOCAL DATA
- AGREEMENTS

Thank You

Contact information

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