MODEL INVENTORY OF ROADWAY ELEMENTS (MIRE)

JULY 2018

CALTRANS

U.S. Department of Transportation
Federal Highway Administration

Safe Roads for a Safer Future
Investment in roadway safety saves lives
http://safety.fhwa.dot.gov

WHAT IS MIRE?

- TRAFFIC SAFETY DATA HAS THREE COMPONENTS – COLLISION, INVENTORY OF ROADWAY ELEMENTS, AND VOLUMES
- ALL THREE COMPONENTS OF SAFETY DATA ENABLES 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

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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 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)

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MIRE FDE

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

The number in "( )" refers to the MIRE number in MIRE 1.0.

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MIRE FDE

Non-Local Paved Roads

Roadway Segment

Segment Identifier (12)	AADT (79)	Direction of Inventory (18)	Segment Length (13)
Functional Class (19)	AADT (79) [for Each Intersecting Road]	Location Identifier for Road 1 Crossing Point (122)	Number of Through Lanes (31)
Begin Point Segment Descriptor (10)	AADT Year (80) [for Each Intersecting Road]	Location Identifier for Road 2 Crossing Point (123)	Unique Approach Identifier (139)
End Point Segment Descriptor (11)	AADT Year (80)	Access Control (22)	Unique Junction Identifier (120)
Type of Governmental Ownership (4)	Federal Aid/ Route Type (21)	One/Two-Way Operations (91)	Median Type (54)
Rural/Urban Designation (20)	Route Number (8)	Intersection/Junction Geometry (126)	
Surface Type (23)	Route/street Name (9)	Intersection/Junction Traffic Control (131)	

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MIRE FDE

Non-Local Paved Roads

Intersection

Unique Junction Identifier (120)	Unique Approach Identifier (139)
Intersection/Junction Geometry (126)	Intersection/Junction Traffic Control (131)
Location Identifier for Road 1 Crossing Point (122)	Location Identifier for Road 2 Crossing Point (123)
AADT (79) [for Each Intersecting Road]	AADT Year (80) [for Each Intersecting Road]

Interchange/Ramp

Functional Class (19)	Roadway Type at Beginning Ramp Terminal (195)
Type of Governmental Ownership (4)	Roadway Type at Ending Ramp Terminal (199)
Unique Interchange Identifier (178)	Ramp Length (187)
Location Identifier for Roadway at Beginning Ramp Terminal (197)	Location Identifier for Roadway at Ending Ramp Terminal (201)
Interchange Type (182)	Year of Ramp AADT (192)
Ramp AADT (191)	

The number in "( )" refers to the MIRE number in MIRE 1.0.

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MIRE FDE

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

The number in "( )" refers to the MIRE number in MIRE 1.0.

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BENEFITS OF MIRE

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

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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

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STEPS TO ACHIEVE MIRE BY 2026

- DATA GOVERNANCE
- CLOSE COORDINATION WITH LOCALS
- COLLECTION OF MIRE DATA
- STORAGE OF MIRE DATA
- MECHANISM TO REGULARLY UPDATE & MAINTAIN MIRE DATA

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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?

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DATA COLLECTION

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

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STORAGE OF DATA

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

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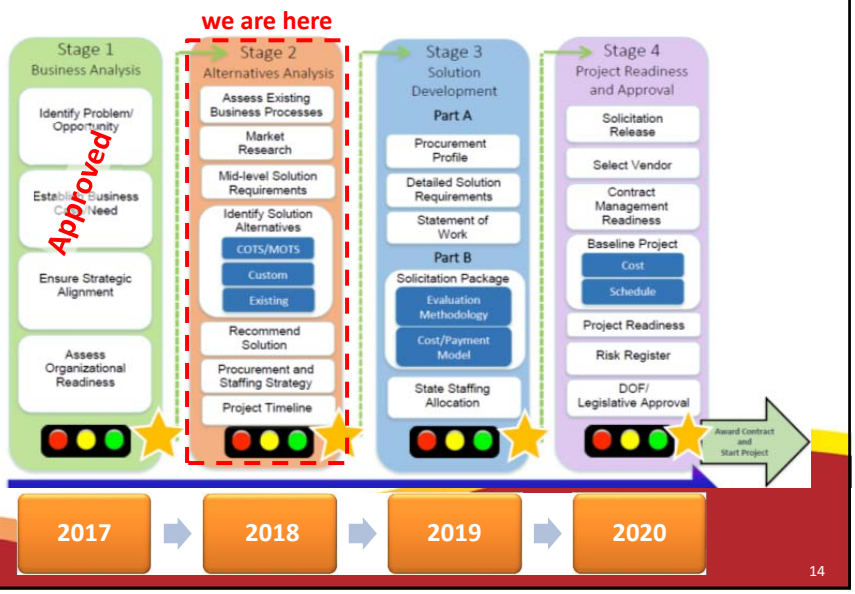
TSNR PROJECT STATUS



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MIRE PROJECT STATUS

- MIRE FDE GAP ANALYSIS: COMPLETED IN MAY 2017
- MIRE FDE PROJECT MANAGEMENT PLAN (SAFETREC UCB): COMPLETED IN JUNE 2017
- MIRE DATA COLLECTION AND MANAGEMENT PLAN (DRAFT): COMPLETED IN JUNE 2018

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UPCOMING STEPS

- DATA GOVERNANCE
- DATA COLLECTION ASSESSMENT

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REGIONAL AND LOCAL SUPPORT

- COORDINATION WITH LOCAL PARTNERS AND COLLECT LOCAL DATA
- AGREEMENTS

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CONCLUSION

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