IMPROVE I-70 KC
J4I1486D

INDUSTRY MEETING
JECT UPDATE

ıry 13, 2024, 10 AM – 12 PM

MoDOT Kansas City District Office, Lee's Summit, MO

Welcome

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- Housekeeping
- Safety Protocols
- Project Presentations
- Q/A
- DBE Networking Time

Agenda

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- Project Overview
- Project Goals
- Update
- Schedule
- RFQ
- Draft ITP
- Safety Analysis Tool

Project Overview - Location

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- Kansas City
- From The Paseo Blvd to US 40 / 31st St
- Approx. 5 miles in length
- Urbanized area

Project Overview

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- 12 interchanges
- 29 mainline and overhead bridges
- 6 / 8 thru lanes of pavement
- 96,000 to 120,000 vpd
- 18% trucks
- Heavy AM and PM rush hour traffic
- Heavy pedestrian and transit traffic

Project Goals

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1. Deliver the project within the programmed budget of $223M by December 31, 2028.
2. Implement innovative transportation solutions to improve safety and reliability along the corridor.
3. Provide durable and maintainable infrastructure that revives the corridor and aligns with regional development.
4. Improve accessibility for the local community and create opportunities to grow a diverse workforce.
5. Minimize overall traffic impact during construction in partnership with stakeholders.

PROJECT UPDATE

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- Second Tier EIS Re-Evaluation Approved
  - Approved AJR
- Right of Way Plans & A-Date Approved
  - Begun Early Acquisition of Key Parcels
- Early Release Information
  - Approved Second Tier EIS Re-evaluation
  - Approved Conceptual AJR and VISSIM data
  - Approved Right of Way Plans
  - Conceptual Design Information
  - Existing Information

Schedule

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Item	Date
Industry Meeting #2	Feb 13, 2024
Issue RFQ	Feb 13, 2024
SOQs Due	Mar 15, 2024
Shortlisted Submitters Notified	Mar 26, 2024
Issue RFP	Apr 1, 2024
Final Proposal and Price Allocation Due	Jun 28, 2024
Selection of Apparent Best Value	Aug 7, 2024

Request for Qualifications (RFQ)

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SOQ Submittal Requirements / Evaluation Criteria

- Administrative Elements (Pass/Fall)
- Submitter Experience (50 Points)
- Key Personnel and Organization (25 Points)
- Quality and Safety Approach (15 Points)
- Community Involvement (10 Points)

Changes to the RFQ include:

- Budget - $13M in Additional Project Funds
- Stipend – Increased to $1M

Draft Instructions to Proposers (ITP)

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Draft ITP Technical Elements

- Project Definition (60 Points)
  - Geometrics
  - Pavements
  - Structures
  - Reliability
- Safety (15 Points)
  - Quantitative Analysis
  - Qualitative Analysis
- Community Impacts (15 Points)
  - Public Information Plan
  - STEM and Construction Careers
  - Community Connectivity
- Maintenance of Traffic (MOT) and Schedule (10 Points)
  - MOT Plan
  - Schedule

Draft ITP

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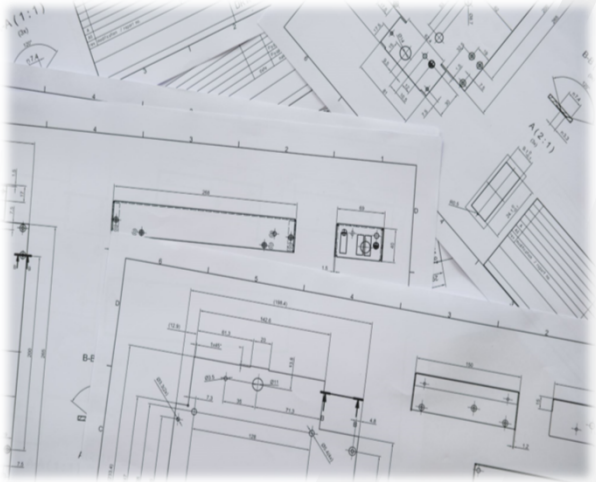
Project Definition

- Geometrics – Describe the geometric features of the project.
- Pavements – Describe the elements for new, reconstructed, and rehabilitated pavements on the project.
- Bridge and Wall Structures – Describe the elements for new, reconstructed, and rehabilitated bridges and walls structures on the project.
- Reliability – Define improvements and strategies to maximize operations and increasing reliability for all users.



Draft ITP

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Community Impacts

- Public Information Plan – Provide plan for providing information to MoDOT for public and stakeholder interaction during design and construction.
- STEM and Construction Careers Plan – Develop plan that promotes workforce diversity in transportation fields.
- Community Connectivity – Commitments to connecting the community through improvements to bicycle, pedestrian, and local roads.

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Maintenance of Traffic and Schedule

- Maintenance of Traffic - Approach to maintaining traffic during project construction
  - Maintenance of Traffic Plan
  - World Cup – Approach to coordination of construction activities and phasing to mitigate traffic impacts during the 2026 FIFA World Cup

- Schedule - Schedule for completing the Project including the duration of each construction phase the overall completion date

Draft ITP

Safety

- Qualitative Analysis – Provide commitments to improving safety along the corridor for all users.
- Quantitative Analysis – Predictive Safety Analysis tool to evaluate proposed safety benefits
- Safety Analysis Tool presentation to follow.

Draft Safety Analysis Tool

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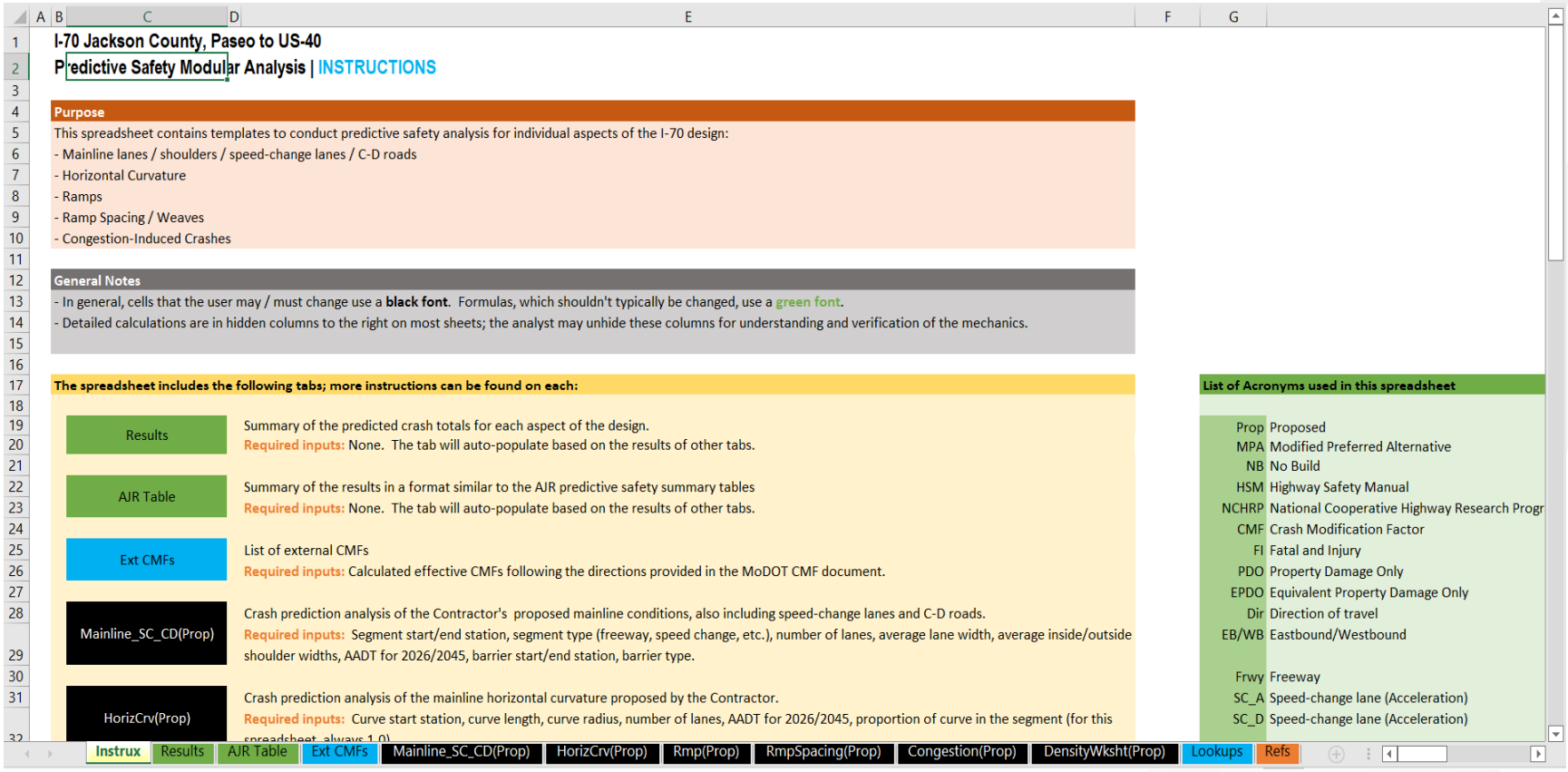

I-70 Jackson County, Paseo to US-40

Predictive Safety Modular Analysis | INSTRUCTIONS

Purpose

This spreadsheet contains templates to conduct predictive safety analysis for individual aspects of the I-70 design:
- Mainline lanes / shoulders / speed-change lanes / C-D roads
- Horizontal Curvature
- Ramps
- Ramp Spacing / Weaves
- Congestion-Induced Crashes

General Notes

- In general, cells that the user may / must change use a **black font**. Formulas, which shouldn't typically be changed, use a green font.
- Detailed calculations are in hidden columns to the right on most sheets; the analyst may unhide these columns for understanding and verification of the mechanics.

The spreadsheet includes the following tabs; more instructions can be found on each:

Results	Summary of the predicted crash totals for each aspect of the design. Required inputs: None. The tab will auto-populate based on the results of other tabs.
AJR Table	Summary of the results in a format similar to the AJR predictive safety summary tables Required inputs: None. The tab will auto-populate based on the results of other tabs.
Ext CMFs	List of external CMFs Required inputs: Calculated effective CMFs following the directions provided in the MoDOT CMF document.
Mainline_SC_CD(Prop)	Crash prediction analysis of the Contractor's proposed mainline conditions, also including speed-change lanes and C-D roads. Required inputs: Segment start/end station, segment type (freeway, speed change, etc.), number of lanes, average lane width, average inside/outside shoulder widths, AADT for 2026/2045, barrier start/end station, barrier type.
HorizCrv(Prop)	Crash prediction analysis of the mainline horizontal curvature proposed by the Contractor. Required inputs: Curve start station, curve length, curve radius, number of lanes, AADT for 2026/2045, proportion of curve in the segment (for this

List of Acronyms used in this spreadsheet

Prop	Proposed
MPA	Modified Preferred Alternative
NB	No Build
HSM	Highway Safety Manual
NCHRP	National Cooperative Highway Research Progr
CMF	Crash Modification Factor
FI	Fatal and Injury
PDO	Property Damage Only
EPDO	Equivalent Property Damage Only
Dir	Direction of travel
EB/WB	Eastbound/Westbound
Frwy	Freeway
SC_A	Speed-change lane (Acceleration)
SC_D	Speed-change lane (Acceleration)

Instrux | Results | AJR Table | Ext CMFs | Mainline_SC_CD(Prop) | HorizCrv(Prop) | Rmp(Prop) | RmpSpacing(Prop) | Congestion(Prop) | DensityWksht(Prop) | Lookups | Refs

Draft Safety Analysis Tool

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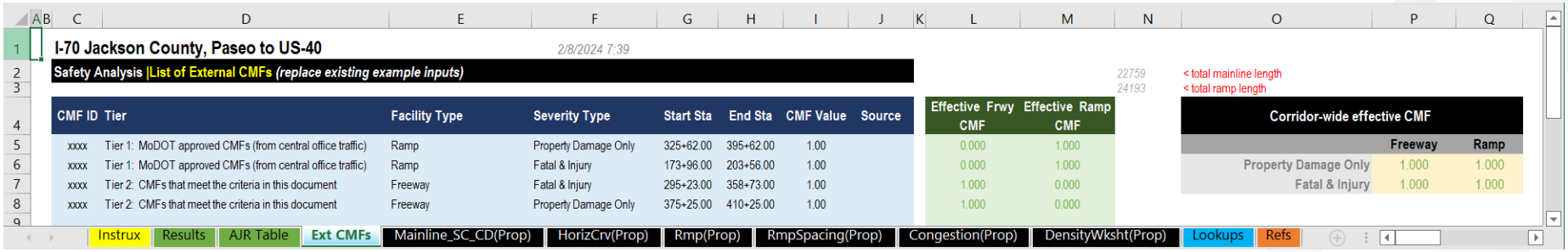

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Safety Analysis |List of External CMFs *(replace existing example inputs)*

22759 < total mainline length
24193 < total ramp length

CMF ID	Tier	Facility Type	Severity Type	Start Sta	End Sta	CMF Value	Source	Effective Frwy CMF	Effective Ramp CMF
xxxx	Tier 1: MoDOT approved CMFs (from central office traffic)	Ramp	Property Damage Only	325+62.00	395+62.00	1.00		0.000	1.000
xxxx	Tier 1: MoDOT approved CMFs (from central office traffic)	Ramp	Fatal & Injury	173+96.00	203+56.00	1.00		0.000	1.000
xxxx	Tier 2: CMFs that meet the criteria in this document	Freeway	Fatal & Injury	295+23.00	358+73.00	1.00		1.000	0.000
xxxx	Tier 2: CMFs that meet the criteria in this document	Freeway	Property Damage Only	375+25.00	410+25.00	1.00		1.000	0.000

Corridor-wide effective CMF

	Freeway	Ramp
Property Damage Only	1.000	1.000
Fatal & Injury	1.000	1.000

Instrux | Results | AJR Table | Ext CMFs | Mainline_SC_CD(Prop) | HorizCrv(Prop) | Rmp(Prop) | RmpSpacing(Prop) | Congestion(Prop) | DensityWksht(Prop) | Lookups | Refs

Draft Safety Analysis Tool

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Safety Analysis | Mainline, Speed-change Lanes, C-D Roads

Proposed Design

Segmentation										AADT	
Dir	#	Start Station	End Station	Length (mi)	Seg Type	# Lanes	Lane Width (ft)	Shoulder Width (ft) inside	Shoulder Width (ft) outside	2026	2045
EB	1	173+96	395+62	4.2	Frwy	4	12.0	12.0	10.2	106,000	117,000
EB	2	395+62	401+55	0.1	SC_A	4	12.0	12.0	12.0	106,000	117,000
EB	14	0+00	5+90	0.1	CD	2	12.0	4.0	8.0	4,980	5,380
EB	15	5+90	6+07	0.0	CD	1	12.0	4.0	8.0	4,980	5,380
EB	16	6+07	27+68	0.4	CD	1	12.0	4.0	8.0	4,980	5,380
EB	17	27+68	43+33	0.3	CD	2	12.0	4.0	8.0	4,980	5,380
WB	1	173+96	195+00	0.4	Frwy	4	12.0	12.0	10.2	106,000	117,000
WB	2	195+00	203+97	0.2	SC_A	4	12.0	12.0	12.0	106,000	117,000
WB	3	203+97	401+55	3.7	Frwy	4	12.0	12.0	10.2	106,000	117,000
WB	6	0+00	18+39	0.3	CD	2	12.0	4.0	8.0	4,980	5,380
WB	7	18+39	23+39	0.1	CD	1	12.0	4.0	8.0	4,980	5,380

Summary

Freeways	Total	FI	PDO
base	1,795	579	1,216
base+roadside features	1,795	579	1,216
base+LWSW	1,628	519	1,109
roadside delta	0	0	0
LWSW delta	-166	-60	-107
total w/ adjustments	1,628	519	1,109

Speed-change Lanes	Total	FI	PDO
base	40	9	30
base+roadside features	40	9	30
base+LWSW	35	7	28
roadside delta	0	0	0
LWSW delta	-5	-2	-3
total w/ adjustments	35	7	28

C-D Roads	Total	FI	PDO
base	15	5	10
base+roadside features	15	5	10
base+LWSW	17	6	11
roadside delta	0	0	0
LWSW delta	1	1	1
total w/ adjustments	17	6	11

Instrux | Results | AJR Table | Ext CMFs | Mainline_SC_CD(Prop) | HorizCrv(Prop) | Rmp(Prop) | RmpSpacing(Prop) | Congestion(Prop) | DensityWksht(Prop) | Lookups | Refs

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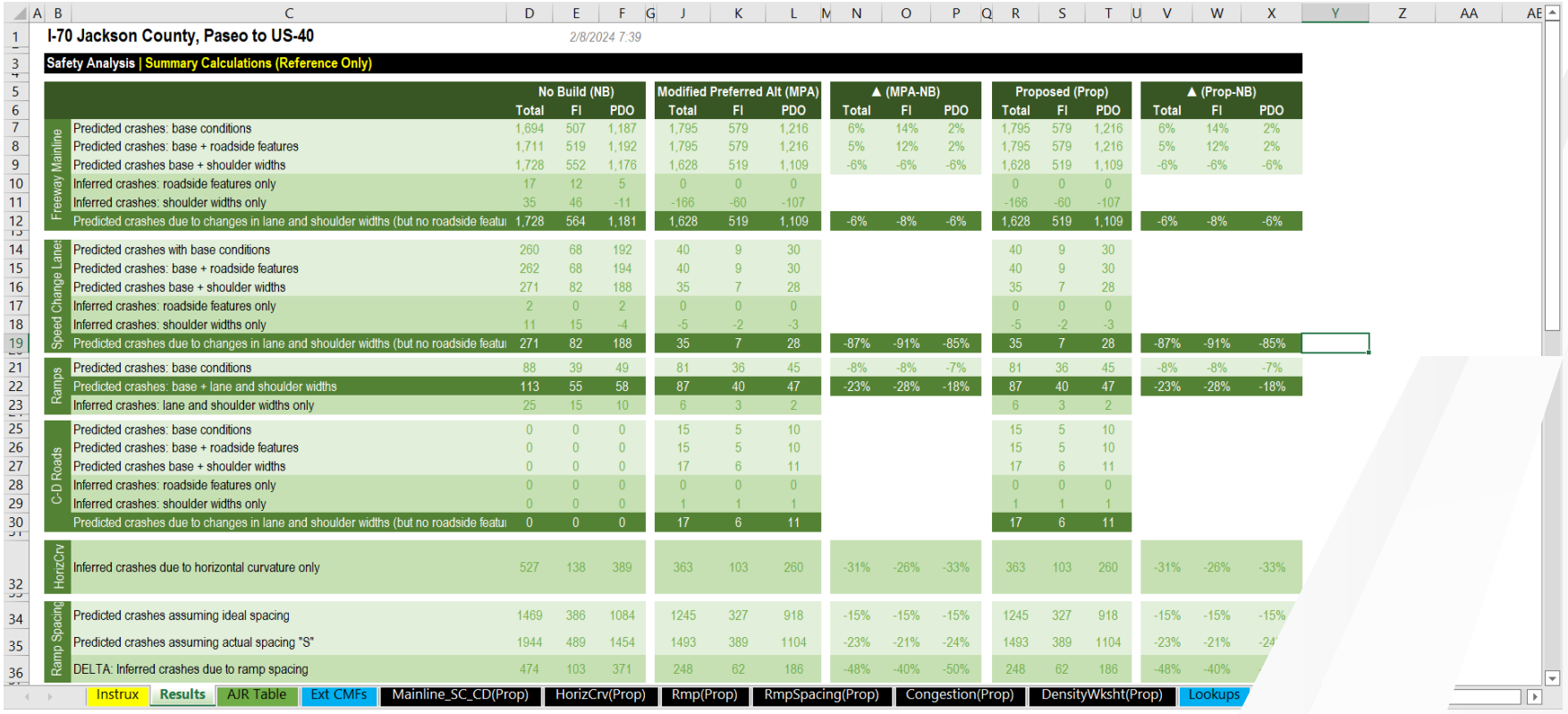

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Safety Analysis | Summary Calculations (Reference Only)

		No Build (NB)			Modified Preferred Alt (MPA)			▲ (MPA-NB)			Proposed (Prop)			▲ (Prop-NB)		
		Total	FI	PDO	Total	FI	PDO	Total	FI	PDO	Total	FI	PDO	Total	FI	PDO
Freeway Mainline	Predicted crashes: base conditions	1,694	507	1,187	1,795	579	1,216	6%	14%	2%	1,795	579	1,216	6%	14%	2%
	Predicted crashes: base + roadside features	1,711	519	1,192	1,795	579	1,216	5%	12%	2%	1,795	579	1,216	5%	12%	2%
	Predicted crashes base + shoulder widths	1,728	552	1,176	1,628	519	1,109	-6%	-6%	-6%	1,628	519	1,109	-6%	-6%	-6%
	Inferred crashes: roadside features only	17	12	5	0	0	0				0	0	0			
	Inferred crashes: shoulder widths only	35	46	-11	-166	-60	-107				-166	-60	-107			
	Predicted crashes due to changes in lane and shoulder widths (but no roadside featu	1,728	564	1,181	1,628	519	1,109	-6%	-8%	-6%	1,628	519	1,109	-6%	-8%	-6%
Speed Change Lanes	Predicted crashes with base conditions	260	68	192	40	9	30				40	9	30			
	Predicted crashes: base + roadside features	262	68	194	40	9	30				40	9	30			
	Predicted crashes base + shoulder widths	271	82	188	35	7	28				35	7	28			
	Inferred crashes: roadside features only	2	0	2	0	0	0				0	0	0			
	Inferred crashes: shoulder widths only	11	15	-4	-5	-2	-3				-5	-2	-3			
	Predicted crashes due to changes in lane and shoulder widths (but no roadside featu	271	82	188	35	7	28	-87%	-91%	-85%	35	7	28	-87%	-91%	-85%
Ramps	Predicted crashes: base conditions	88	39	49	81	36	45	-8%	-8%	-7%	81	36	45	-8%	-8%	-7%
	Predicted crashes: base + lane and shoulder widths	113	55	58	87	40	47	-23%	-28%	-18%	87	40	47	-23%	-28%	-18%
	Inferred crashes: lane and shoulder widths only	25	15	10	6	3	2				6	3	2			
C-D Roads	Predicted crashes: base conditions	0	0	0	15	5	10				15	5	10			
	Predicted crashes: base + roadside features	0	0	0	15	5	10				15	5	10			
	Predicted crashes base + shoulder widths	0	0	0	17	6	11				17	6	11			
	Inferred crashes: roadside features only	0	0	0	0	0	0				0	0	0			
	Inferred crashes: shoulder widths only	0	0	0	1	1	1				1	1	1			
	Predicted crashes due to changes in lane and shoulder widths (but no roadside featu	0	0	0	17	6	11				17	6	11			
HorizCrv	Inferred crashes due to horizontal curvature only	527	138	389	363	103	260	-31%	-26%	-33%	363	103	260	-31%	-26%	-33%
Ramp Spacing	Predicted crashes assuming ideal spacing	1469	386	1084	1245	327	918	-15%	-15%	-15%	1245	327	918	-15%	-15%	-15%
	Predicted crashes assuming actual spacing "S"	1944	489	1454	1493	389	1104	-23%	-21%	-24%	1493	389	1104	-23%	-21%	-24
	DELTA: Inferred crashes due to ramp spacing	474	103	371	248	62	186	-48%	-40%	-50%	248	62	186	-48%	-40%	

Instrux | Results | AJR Table | Ext CMFs | Mainline_SC_CD(Prop) | HorizCrv(Prop) | Rmp(Prop) | RmpSpacing(Prop) | Congestion(Prop) | DensityWksht(Prop) | Lookups

Wrap-up

- Presentation will be posted on the project webpage www.modot.org/improvei70kc
- Be sure you signed the meeting Sign-in Sheet
- Thank you for your interest

Questions?

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Allan Ludiker, PE
MoDOT Project Director
Allan.Ludiker@modot.mo.gov
816-607-2267

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