Section 1. Applicant Information				
Agency Name	Van Buren County Road Commission			
Contact Name	Larry Hummel	Title	Engineer - Manager	
Phone Number	269-674-8011	Email	larryhummel@vbcrc.org	

Section 2. Project Information					
Project Name/Road Name	CR 681				
Township/City/Village	Lawrence Township				
Project Limits (e.g. Napier Ave. to Britain Ave.)	M-51 to CR 352				
Project Length (nearest hundredth of a mile)	2.16	Proposed Year of Funding	2020		
Primary Work Type	☐ Reconstruct ☒ Restore & Rehabilitate ☐ Roadside Facility ☐ Resurface ☐ Traffic Operations/Safety ☐ Transit ☐ Other				
Project Description	escription Trench, widen, crush and shape, HMA paving, drainage, and pavement				
(Please provide major work	markings				
items including sidewalks, utility					
work, ADA upgrades etc.)					

Section 3. Project Funding	
Federal STBG Requested	\$ 1,052,000
State D	\$
CTF	\$
Local Funds	\$ 263,000
Total	\$ 1315,000
Match Percentage (match/total cost)	20%
Does your agency have the financial capacity to Advance Construct (AC) all or part of this project if necessary? If yes, what is the maximum dollar amount your agency is willing to Advance Construct (AC)?	<ul><li>✓ Yes ☐ No</li><li>Maximum Dollar Amount you can AC?</li><li>\$ 500,000</li></ul>

Section 4. System Preservation					
PASER rating		6			
Current state of drainage		Occasional d	☐ Minor and tolerable drainage problems ☐ Occasional drainage problems with some maintenance required ☐ Inadequate drainage, frequent flooding, excessive maintenance		
Expected increase in Rema Service life (RSL)	ining	Use MDOT's Gui	4-6 7-9 10-14 delines for Geometrics or		
What guidelines does the conform to?	oroject	☐ Reconstruction ☐ Resurfacing, I			
Section 5. Safety					
Please list the number and (2013-2017) (see Michiga	•		proposed project limits of	over the last 5 yrs.	
Total Crashes	32		edestrian & Bicycle rashes	0	
Fatalities	0	Se	erious Injuries	0	
Using the attached Crash Fincluded in the project Describe any other safety		ictors sheet, please		ter measure that will be	
improvements this project provide		Taciming official a	a sign appraise		
	•				
Section 6. Non-motoriz	zed Improv	vements			
Please explain any pedestr					
bicycle improvements are	included				
Does this project connect	to an existin	g Yes 🔀 🛚	No		
pedestrian/bicycle facility		S If yes, please provide a man of the connecting facilities			
planned to be completed from 2020-2023?					
Section 7. Regional Co	nnectivity				
What is the most current of this project?		ount for the limits	Less than 2000 [ 5000-10,000 [ Year of count: 2013	2000-5000 Above 10,000 Source: VBCRC	
National Functional Classif	ication (NFC	c) for this roadway	Maj Coll		
Is the project on an All Season Road			Yes No Not	Sure	

Section 8. Strategic Planning & Investment	
Is the project identified in a Asset Management Plan, or Capital Improvement Plan	Yes No If yes, please cite the plan and page number:
Is the project identified in another planning documents such as a master plan or parks and recreation plan	Yes No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	Yes No
If yes, will it be bid as a single project?	Yes No NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	☐ Yes ☒ No If yes, please indicate the project type and construction year:
How many water main breaks have you had at this location in the past five years?	
Is there a completed a utilities assessment that included televising the sewers in the project area?	☐ Yes ⊠ No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	Yes No Not Sure If yes, which items are required:
Does this project perform Resurfacing, Reconstruction, or Preventative Maintenance on a segment adjacent to a segment where a federally-funded project was done during the <a href="https://www.swmpc.org/downloads/rtf">2017-</a> <a href="https://www.swmpc.org/downloads/rtf">https://www.swmpc.org/downloads/rtf</a> region4 20172020 project list.pdf2020 RTF cycle?	Yes No What segment was the PREVIOUS project done on?

		Exist	ing		Proposed		
Number of Vehicle Lanes	ber of Through Center			On Street Parking	Through Traffic Lanes	Center Turn Lane	On Street Parking
	2	0		☐ Yes ⊠ No	2	0	☐ Yes ⊠ No
Shoulder Surface	Paved Unpaved	l	Wid 4	dth (ft.)	Paved Unpaved		Width (ft.) 6
Sidewalk/ path information	Placement One Side Both Sides Intermittent None		Wie	dth (ft.)	Placement  One Side  Both Sides  Intermittent  None		Width (ft.)
On road bicycle facilities	Bike Lane Other (specify) Sharrows Wide Shoulders None			☐ Bike Lane ☐ Other (specify) ☐ Sharrows ☐ Wide Shoulders ☐ None			
Utilities, Sewer and Water	Utilities Upgrades Needed Sewer and water work needed			Replaced Utilities Relocating Utilities Sewer and Water Line Work			
Please describe any improvements being made as part of this project to crosswalks, signage or signals, or streetscape elements not discussed in project description					<u> </u>		

Section 10. Estimated Project Schedule	
Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	2/2019
Project Application Submitted to MOT	3/2019
Grade Inspection Package Submitted to MDOT	4/2019
Grade Inspection Meeting Scheduled	6/2019
Final Plan and Estimate to MDOT	7/2019
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	9/2019
Project Letting	11/2019
Construction Start □	4/2020
Project Completion	7/2020

<sup>\*</sup>Enter NA if these items will not be required.

Proposed Improvement	% Reduction	Associated Crash Types				
SEGMENT CRASH REDUCTION FACTORS						
Geometric Safety Enhancements						
	80%	Rear-End Left-Turn				
	50%	Head-On Left-Turn				
Center Left-Turn Lane - Construct	20%	Head-On, Angle, Sideswipe*				
	15%	Non Left-Turn Rear-End, Other*				
	65%	Rear-End Right-Turn				
	30%	Angle				
Right-Turn Lane - Construct	15%	Rear-End				
	10%	Other*				
Horizontal Curve Flattening	30%	Lane Departure***				
Shoulders - Widen to Standard Width (add 1' each side)	5%	Lane Departure***				
Shoulders - Widen to Standard Width (add 2' each side)	10%	Lane Departure***				
Shoulders - Widen to Standard Width (add 3' each side)	15%	Lane Departure***				
Shoulders - Widen to Standard Width (add 4' each side)	20%	Lane Departure***				
Shoulders - Widen to Standard Width (add 5' each side)	25%	Lane Departure***				
Shoulders - Widen to Standard Width (add 6' each side)	30%	Lane Departure***				
Shoulders - Widen to Standard Width (add 7' each side)	35%	Lane Departure***				
Vertical Curve Modification	20%	All Applicable Crash Types +++				
General S	Segment Enhanc	ements				
Access Management - Improve	15%	Drive-way Related Applicable Crashes				
	44%	K and A injury Applicable Crashes				
Centerline Rumble Strips - Install	46%	Single Vehicle Run off Road Left Crashes				
Centernine Rumbie Strips - Instan	43%	Sideswipe Same Crashes				
	55%	Sideswipe Opposite Crashes				
High Friction Surface Treatment - Install	35%	Wet Crashes				
nigh Friction Surface Treatment - mstun	20%	All Other Applicable Crashes				
Recessed Durable Pavement Markings	5%	All Applicable Crashes				
Pedestrian Refuge - Install	50%	Pedestrian Crashes (Review NCHRP Report 841)				
Road Diet (4-3 Lane Conversion) - Install	50%	Suburban - All Applicable Crashes				
Shoulder Rumble Strips	20%	Run-Off the Road Right Crashes				
Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install	20%	Lane Departure***				
Safety Edge Improvement	13%	All non-intersection crashes (CMF Clearing House ID 8658)				

	Roadside Enhancements					
	Bicycle Lanes - Install per standards	50%	Bicycle Crashes			
	Shared Use Path - Install	33%	Bicycle and Pedestrian Related Crashes			
	Fixed Objects From Clearzone (Trees, Culverts, Etc.) - Removal	75%	Fixed-Object Applicable Crashes			
	Guardrail - Install	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes			
	Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes			
	Slope Flattening	15%	Fixed-Object, Overturn Applicable Crashes			
	Living Snow Fence	20%	Crashes due to wintry surface conditions			
	Lighting - install on segment	20%	Dark Unlighted Crashes			
	INTERSECTIO	N CRASH REDUC	CTION FACTORS			
	Pedestrian	n / Bicycle Enha	incements			
	Bump Out / Curb Extension - Remove Parking / Install	30%	All Crashes			
	Bicycle Lanes - Install per standards	25%	Bicycle Crashes			
	Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes			
	Intersection Lighting - install	75%	Pedestrian Fatal - Dark Unlighted Crashes			
		40%	Pedestrian A-Injury - Dark Unlighted Crashes			
		30%	All Applicable Dark Unlighted Crashes			
	Rectangular Rapid Flashing Beacons	47%	Pedestrian Crashes			
	Ped. Countdown Signals - Install new Pedestrian signal	30%	Pedestrian Crashes			
	Ped. Countdown Signals - Upgrade from existing Pedestrian signal	25%	Pedestrian Crashes			
	Signal Timing	/ Hardware Er	nhancements			
		3%	Rear-End			
	Multiple Low-Cost Improvements	12%	Right-Angle			
		3%	Nighttime			
	Install Reflectorized Backplates	15%	All Applicable Crashes			
	Add All-Red Clearance Interval - Add per ITE	20%	Head-On Left-Turn, Angle			
	Yellow-Change Interval - Increase	10%	All Crash Types			
		65%	Angle			
	Box Span Signal - Upgrade from Stop Control	-25%	Rear-End (Increases Crashes)			
		20%	All Other Non Rear-End Crashes			
	Box Span Signal - Upgrade from Diagonal Span	10%	All Applicable Crashes+			
	Protected Left-Turn Signal Phase - Add	30%	Left-Turn			
	Signal Head Size - Increase to 12 "	10%	All Applicable Crashes +			
	Signal Optimization & Timing Updates	10%	All Applicable Crashes +			
	Removing Night Flash from Signal Timing	50%	Nighttime Flash mode Related Crashes			

	Intersection Geometric Enhancements					
	Center Left-Turn Lane - Construct	80%	Rear-End Left-Turn			
		50%	Head-On Left-Turn			
		20%	Head-On, Angle, Other			
		15%	Non Left-Turn Rear-End			
		30%	Angle			
	Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.)	15%	Rear-End			
	Radii improvements, Etc.)	10%	Head-On, Sideswipe, Pedestrian, Bicycle, Left-Turn Related			
		65%	Angle-Turn, Head-On Left-Turn			
	Offset Left-Turn Lane - Construct		Rear-End Left-Turn			
	Offset Right-Turn Lane - Construct	65%	Angle-Turn			
		50%	Other Applicable Crashes			
		20%	Rear-End Right Turn			
	Right-Turn Lane - Construct	65%	Rear-End Right-Turn			
		20%	Applicable Rear-End Crashes, Sideswipe Same Direction			
		78%	Fatal and A-Injury Reduction			
	Roundabout	57%	Minor Crash Reduction			
	Lighting		See MDOT Interchange Warranted Lighting Guidance and overall			
			MDOT Lighting Guidance			
	General Intersection Enhan	ncements (Non-				
	All-Way Stop Control - New Installation	60%	All Applicable Crashes			
	Ground Mounted Flashing Beacons (Red)- Install **	30%	All Crashes On Install Approach			
	Ground Mounted Flashing Beacons(Amber) - Install **	20%	All Crashes On Install Approach			
	Signing - Improve/Upgrade	30%	Angle, Rear-End Crashes			
	Pavement Markings - Improve/Upgrade	30%	Angle, Rear-End Crashes			
	Reflective Sheeting on Sign Posts (Iollipops)	15%	All Applicable Crashes			

Section 1. Applicant Information				
Agency Name	Van Buren County Road Commission			
Contact Name	Larry Hummel	Title	Engineer - Manager	
Phone Number	269-674-8011	Email	larryhummel@vbcrc.org	

Section 2. Project Information					
Project Name/Road Name	CR 687				
Township/City/Village	Keeler Township				
Project Limits (e.g. Napier Ave. to Britain Ave.)	CR 342 to 90 <sup>th</sup> Ave				
Project Length (nearest hundredth of a mile)	.44	Proposed Year of Funding	2020		
Primary Work Type	☐ Reconstruct ☒ Restore & Rehabilitate ☐ Roadside Facility ☐ Resurface ☐ Traffic Operations/Safety ☐ Transit ☐ Other				
Project Description	oject Description Trench and widen, crush and shape, HMA paving, and pavement				
(Please provide major work	markings.				
items including sidewalks, utility					
work, ADA upgrades etc.)					

Section 3. Project Funding	
Federal STBG Requested	\$ 416,000
State D	\$
CTF	\$
Local Funds	\$ 104,000
Total	\$ 520,000
Match Percentage (match/total cost)	20%
Does your agency have the financial capacity to Advance Construct (AC) all or part of this project if necessary? If yes, what is the maximum dollar amount your agency is willing to Advance Construct (AC)?	<ul><li>✓ Yes ☐ No</li><li>Maximum Dollar Amount you can AC?</li><li>\$ 500,000</li></ul>

Section 4. System Pres	ervation				
PASER rating		4			
00			d toler Il draii	• .	ns ome maintenance required ng, excessive maintenance
Expected increase in Rema	nining	0-3 years	ш	1-6 7-9 10-14	
Service life (RSL)				ines for Geometrics or	<u>ı Local Projects</u>
What guidelines does the property conform to?	project	☐ Reconstruc		•	: /2D)
comorni to:			-	toration, and Rehabilit	ation (3K)
		<u> </u>	e iviai	ntenance (PM)	
Saction E Safaty					
Section 5. Safety					
Please list the number and	•		•	oposed project limits c	over the last 5 yrs.
(2013-2017) (see Michiga Total Crashes	an Crash Fact	s for crash data	1	estrian & Bicycle	
Total Clashes	7		Cras	•	0
Fatalities	0			ous Injuries	0
Using the attached Crash Fincluded in the project	Reduction Fac	ctors sheet, ple	ase c	heck each safety coun	ter measure that will be
Describe any other safety improvements this project provide	will				
Section 6. Non-motoriz	zed Improve	ements			
Please explain any pedestrian and/or 5 for				houlder that connects Trail.	CR 342 to Hartford and
Does this project connect to an existing pedestrian/bicycle facility or one that is planned to be completed from 2020-2023?    Yes   If yes, p		Yes No es, please provide a map of the connecting facilities			
Section 7. Regional Cor	nnectivity				
What is the most current daily traffic count for the limi of this project?		its	Less than 2000 5000-10,000 Year of count: 2013	2000-5000 Above 10,000 Source: VBCRC	
National Functional Classif	ication (NFC)	for this roadw	ay	Maj Coll	
Is the project on an All Season Road			Yes No Not	Sure	

Section 8. Strategic Planning & Investment	
Is the project identified in a Asset Management Plan, or Capital Improvement Plan	Yes No If yes, please cite the plan and page number:
Is the project identified in another planning documents such as a master plan or parks and recreation plan	Yes No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	Yes No
If yes, will it be bid as a single project?	Yes No NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	Yes No If yes, please indicate the project type and construction year:
How many water main breaks have you had at this location in the past five years?	
Is there a completed a utilities assessment that included televising the sewers in the project area?	Yes No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	Yes No Not Sure If yes, which items are required:
Does this project perform Resurfacing, Reconstruction, or Preventative Maintenance on a segment adjacent to a segment where a federally-funded project was done during the <a href="https://www.swmpc.org/downloads/rtf">2017-</a> <a href="https://www.swmpc.org/downloads/rtf">https://www.swmpc.org/downloads/rtf</a> region4 20172020 project list.pdf2020 RTF cycle?	Yes No What segment was the PREVIOUS project done on? CR 687, 90 <sup>th</sup> Ave north 0.6 miles

	Existing				Proposed		
Number of Vehicle Lanes	Through Traffic Lanes	Center		On Street Parking	Through Traffic Lanes	Center Turn Lane	On Street Parking
	2	0		☐ Yes ⊠ No	2	0	☐ Yes ⊠ No
Shoulder Surface	Paved Unpaved		Wid 4	dth (ft.)	Paved Unpaved		
Sidewalk/ path information		One Side Both Sides Intermittent		Placement Wide  ☐ One Side ☐ Both Sides ☐ Intermittent ☐ None		Width (ft.) 0	
On road bicycle facilities	Bike Lane Other (specify) Sharrows Wide Shoulders None		Bike Lane Other (specify) Sharrows Wide Shoulders None				
Utilities, Sewer and Water	Utilities Upgrades Needed  Sewer and water work needed			Replaced Utilities Relocating Utilities Sewer and Water Line Work			
Please describe any improvements being made as part of this project to crosswalks, signage or signals, or streetscape elements not discussed in project description			5 fc	oot paved should	lers for a bike la	ne.	

Section 10. Estimated Project Schedule	
Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	10/2019
Project Application Submitted to MOT	11/2019
Grade Inspection Package Submitted to MDOT	1/2020
Grade Inspection Meeting Scheduled	2/2020
Final Plan and Estimate to MDOT	3/2020
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	5/5020
Project Letting	7/2020
Construction Start □	8/2020
Project Completion	11/2020

<sup>\*</sup>Enter NA if these items will not be required.

	Proposed Improvement	% Reduction	Associated Crash Types				
	SEGMENT CRASH REDUCTION FACTORS						
	Geometric Safety Enhancements						
		80%	Rear-End Left-Turn				
		50%	Head-On Left-Turn				
	Center Left-Turn Lane - Construct	20%	Head-On, Angle, Sideswipe*				
		15%	Non Left-Turn Rear-End, Other*				
		65%	Rear-End Right-Turn				
	Bight Town Long. Construct	30%	Angle				
	Right-Turn Lane - Construct	15%	Rear-End				
		10%	Other*				
	Horizontal Curve Flattening	30%	Lane Departure***				
	Shoulders - Widen to Standard Width (add 1' each side)	5%	Lane Departure***				
$\boxtimes$	Shoulders - Widen to Standard Width (add 2' each side)	10%	Lane Departure***				
	Shoulders - Widen to Standard Width (add 3' each side)	15%	Lane Departure***				
	Shoulders - Widen to Standard Width (add 4' each side)	20%	Lane Departure***				
	Shoulders - Widen to Standard Width (add 5' each side)	25%	Lane Departure***				
	Shoulders - Widen to Standard Width (add 6' each side)	30%	Lane Departure***				
	Shoulders - Widen to Standard Width (add 7' each side)	35%	Lane Departure***				
	Vertical Curve Modification	20%	All Applicable Crash Types +++				
	General S	egment Enhanc	ements				
	Access Management - Improve	15%	Drive-way Related Applicable Crashes				
		44%	K and A injury Applicable Crashes				
	Centerline Rumble Strips - Install	46%	Single Vehicle Run off Road Left Crashes				
	Centernine Rumbie Strips - mstun	43%	Sideswipe Same Crashes				
		55%	Sideswipe Opposite Crashes				
	High Friction Surface Treatment - Install	35%	Wet Crashes				
	Tigit Precion Surface Treatment - mstun	20%	All Other Applicable Crashes				
	Recessed Durable Pavement Markings	5%	All Applicable Crashes				
	Pedestrian Refuge - Install	50%	Pedestrian Crashes (Review NCHRP Report 841)				
	Road Diet (4-3 Lane Conversion) - Install	50%	Suburban - All Applicable Crashes				
	Shoulder Rumble Strips	20%	Run-Off the Road Right Crashes				
	Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install	20%	Lane Departure***				
	Safety Edge Improvement	13%	All non-intersection crashes (CMF Clearing House ID 8658)				

Roadside Enhancements						
Bicycle Lanes - Install per standards	50%	Bicycle Crashes				
Shared Use Path - Install	33%	Bicycle and Pedestrian Related Crashes				
Fixed Objects From Clearzone (Trees, Culverts, Etc.) - Removal	75%	Fixed-Object Applicable Crashes				
Guardrail - Install	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes				
Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes				
Slope Flattening	15%	Fixed-Object, Overturn Applicable Crashes				
Living Snow Fence	20%	Crashes due to wintry surface conditions				
Lighting - install on segment	20%	Dark Unlighted Crashes				
INTERSECTIO	N CRASH REDUC	CTION FACTORS				
Pedestrian	n / Bicycle Enha	incements				
Bump Out / Curb Extension - Remove Parking / Install	30%	All Crashes				
Bicycle Lanes - Install per standards	25%	Bicycle Crashes				
Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes				
	75%	Pedestrian Fatal - Dark Unlighted Crashes				
Intersection Lighting - install	40%	Pedestrian A-Injury - Dark Unlighted Crashes				
	30%	All Applicable Dark Unlighted Crashes				
Rectangular Rapid Flashing Beacons	47%	Pedestrian Crashes				
Ped. Countdown Signals - Install new Pedestrian signal	30%	Pedestrian Crashes				
Ped. Countdown Signals - Upgrade from existing Pedestrian signal	25%	Pedestrian Crashes				
Signal Timing	/ Hardware Er	nhancements				
	3%	Rear-End				
Multiple Low-Cost Improvements	12%	Right-Angle				
	3%	Nighttime				
Install Reflectorized Backplates	15%	All Applicable Crashes				
Add All-Red Clearance Interval - Add per ITE	20%	Head-On Left-Turn, Angle				
Yellow-Change Interval - Increase	10%	All Crash Types				
	65%	Angle				
Box Span Signal - Upgrade from Stop Control	-25%	Rear-End (Increases Crashes)				
	20%	All Other Non Rear-End Crashes				
Box Span Signal - Upgrade from Diagonal Span	10%	All Applicable Crashes+				
Protected Left-Turn Signal Phase - Add	30%	Left-Turn				
Signal Head Size - Increase to 12 "	10%	All Applicable Crashes +				
Signal Optimization & Timing Updates	10%	All Applicable Crashes +				
Removing Night Flash from Signal Timing	50%	Nighttime Flash mode Related Crashes				

	Intersection Geometric Enhancements					
		80%	Rear-End Left-Turn			
	Center Left-Turn Lane - Construct	50%	Head-On Left-Turn			
		20%	Head-On, Angle, Other			
		15%	Non Left-Turn Rear-End			
		30%	Angle			
	Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.)	15%	Rear-End			
	Radii improvements, etc.)	10%	Head-On, Sideswipe, Pedestrian, Bicycle, Left-Turn Related			
	Office Left Town Long Construct	65%	Angle-Turn, Head-On Left-Turn			
	Offset Left-Turn Lane - Construct	20%	Rear-End Left-Turn			
		65%	Angle-Turn			
	Offset Right-Turn Lane - Construct	50%	Other Applicable Crashes			
		20%	Rear-End Right Turn			
	Bisht Town Laws Countries	65%	Rear-End Right-Turn			
	Right-Turn Lane - Construct	20%	Applicable Rear-End Crashes, Sideswipe Same Direction			
	Dd. bt	78%	Fatal and A-Injury Reduction			
	Roundabout	57%	Minor Crash Reduction			
	Lighting	_	See MDOT Interchange Warranted Lighting Guidance and overall			
			MDOT Lighting Guidance			
	General Intersection Enhan	ncements (Non-				
	All-Way Stop Control - New Installation	60%	All Applicable Crashes			
	Ground Mounted Flashing Beacons (Red)- Install **	30%	All Crashes On Install Approach			
	Ground Mounted Flashing Beacons(Amber) - Install **	20%	All Crashes On Install Approach			
	Signing - Improve/Upgrade	30%	Angle, Rear-End Crashes			
	Pavement Markings - Improve/Upgrade	30%	Angle, Rear-End Crashes			
	Reflective Sheeting on Sign Posts (Iollipops)	15%	All Applicable Crashes			

Section 1. Applicant Information				
Agency Name	Van Buren County Road Commission			
Contact Name	Larry Hummel	Title	Engineer - Manager	
Phone Number	269-674-8011	Email	larryhummel@vbcrc.org	

Section 2. Project Information				
Project Name/Road Name	CR 652			
Township/City/Village	Porter Township			
Project Limits (e.g. Napier Ave. to Britain Ave.)	CR 354 to 72 <sup>nd</sup> Ave			
Project Length (nearest hundredth of a mile)	1.04	Proposed Year of Funding	2021	
Primary Work Type		ore & Rehabilitate □ Roadsi Operations/Safety □ Transi	•	
Project Description	Trench and widen, cold	d milling top course, HMA pa	ving, and pavement	
(Please provide major work	markings.			
items including sidewalks, utility				
work, ADA upgrades etc.)				

Section 3. Project Funding	
Federal STBG Requested	\$ 340,000
State D	\$
CTF	\$
Local Funds	\$ 85,000
Total	\$ 425,000
Match Percentage (match/total cost)	20%
Does your agency have the financial capacity to Advance Construct (AC) all or part of this project if necessary? If yes, what is the maximum dollar amount your agency is willing to Advance Construct (AC)?	<ul><li>✓ Yes ☐ No</li><li>Maximum Dollar Amount you can AC?</li><li>\$ 500,000</li></ul>

Section 4. System Pres	ervation				
PASER rating		7			
Occasional			l tolerable drainage probler I drainage problems with so e drainage, frequent floodi	ome maintenance required	
Expected increase in Rema	nining	0-3 years	4-6 🔀 7-9 🔲 10-14		
Service life (RSL) What guidelines does the	oroject		Guidelines for Geometrics on Local Projects		
conform to?	project	☐ Reconstruc	g, restoration, and Rehabili	tation (3R)	
			e Maintenance (PM)	tation (SN)	
			e maintenance (i ivi)		
Section 5. Safety					
	•	rashes within tl s for crash data	he proposed project limits (	over the last 5 yrs.	
Total Crashes	1		Pedestrian & Bicycle Crashes	0	
Fatalities	0		Serious Injuries	0	
Using the attached Crash Fincluded in the project	Reduction Fac	ctors sheet, plea	ase check each safety coun	ter measure that will be	
Describe any other safety improvements this project provide	will				
	-				
Section 6. Non-motoriz	zed Improve	ements			
Please explain any pedestr bicycle improvements are					
Does this project connect to an existing pedestrian/bicycle facility or one that is planned to be completed from 2020-2023?  If yes, please			⊠No ease provide a map of the c	connecting facilities	
Section 7. Regional Co	nnectivity				
What is the most current daily traffic count for the limit of this project?		its Less than 2000 [ 5000-10,000 [ Year of count: 2013	2000-5000 Above 10,000 Source: VBCRC		
National Functional Classif	ication (NFC)	for this roadwa	Maj Coll		
Is the project on an All Sea	son Road		Yes No Not	Sure	

Section 8. Strategic Planning & Investment	
Is the project identified in a Asset Management Plan, or Capital Improvement Plan	Yes No If yes, please cite the plan and page number:
Is the project identified in another planning documents such as a master plan or parks and recreation plan	Yes No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	Yes No
If yes, will it be bid as a single project?	Yes No NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	☐ Yes ☒ No If yes, please indicate the project type and construction year:
How many water main breaks have you had at this location in the past five years?	
Is there a completed a utilities assessment that included televising the sewers in the project area?	☐ Yes ⊠ No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	Yes No Not Sure If yes, which items are required:
Does this project perform Resurfacing, Reconstruction, or Preventative Maintenance on a segment adjacent to a segment where a federally-funded project was done during the <a href="https://www.swmpc.org/downloads/rtf">2017-</a> <a href="https://www.swmpc.org/downloads/rtf">https://www.swmpc.org/downloads/rtf</a> region4 20172020 project list.pdf2020 RTF cycle?	Yes No What segment was the PREVIOUS project done on?

	Existing				Proposed			
Number of	Through	Center		On Street	Through	Center	On Street	
Vehicle Lanes	Traffic Lanes	Turn La	ne	Parking	Traffic Lanes	Turn Lane	Parking	
	2	0		☐ Yes ⊠ No	2	0	☐ Yes ⊠ No	
Shoulder	□ Paved	ı	Wi	dth (ft.)	□ Paved		Width (ft.)	
Surface	□ Unpaved		6				6	
Sidewalk/ path	Placement		Wi	dth (ft.)	Placement		Width (ft.)	
information	One Side	One Side			One Side		0	
	Both Sides				Both Sides	;		
	Intermittent				Intermittent			
	None	None			None			
On road bicycle	Bike Lane Other (specify)		r (specify)	Bike Lane Other (specify)				
facilities	Sharrows			Sharrows				
	Wide Shoulders None		Wide Shoulders None					
Utilities, Sewer	Utilities Up	grades N	leede	ed	Replaced Utilities			
and Water	Sewer and	water wo	ork n	eeded	Relocating Utilities			
					Sewer and Water Line Work			
Please describe a	ny improvemen	ts being						
made as part of this project to								
crosswalks, signag	ge or signals, or							
streetscape elem	ents not discuss	ed in						
project descriptio	n							

Section 10. Estimated Project Schedule	
Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	9/2020
Project Application Submitted to MOT	11/2020
Grade Inspection Package Submitted to MDOT	12/2020
Grade Inspection Meeting Scheduled	2/2021
Final Plan and Estimate to MDOT	3/2021
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	4/2021
Project Letting	5/2021
Construction Start □	7/2021
Project Completion	11/2021

<sup>\*</sup>Enter NA if these items will not be required.

Proposed Improvement	% Reduction	Associated Crash Types						
SEGMENT (	CRASH REDUCTION	•						
Geometric Safety Enhancements								
	80%	Rear-End Left-Turn						
	50%	Head-On Left-Turn						
Center Left-Turn Lane - Construct	20%	Head-On, Angle, Sideswipe*						
	15%	Non Left-Turn Rear-End, Other*						
	65%	Rear-End Right-Turn						
Pick Town Love Countries	30%	Angle						
Right-Turn Lane - Construct	15%	Rear-End						
	10%	Other*						
Horizontal Curve Flattening	30%	Lane Departure***						
Shoulders - Widen to Standard Width (add 1' each side)	5%	Lane Departure***						
Shoulders - Widen to Standard Width (add 2' each side)	10%	Lane Departure***						
Shoulders - Widen to Standard Width (add 3' each side)	15%	Lane Departure***						
Shoulders - Widen to Standard Width (add 4' each side)	20%	Lane Departure***						
Shoulders - Widen to Standard Width (add 5' each side)	25%	Lane Departure***						
Shoulders - Widen to Standard Width (add 6' each side)	30%	Lane Departure***						
Shoulders - Widen to Standard Width (add 7' each side)	35%	Lane Departure***						
Vertical Curve Modification	20%	All Applicable Crash Types +++						
General S	egment Enhanc	ements						
Access Management - Improve	15%	Drive-way Related Applicable Crashes						
	44%	K and A injury Applicable Crashes						
Centerline Rumble Strips - Install	46%	Single Vehicle Run off Road Left Crashes						
Centernine Kumbie Strips - mstan	43%	Sideswipe Same Crashes						
	55%	Sideswipe Opposite Crashes						
High Friction Surface Treatment - Install	35%	Wet Crashes						
riigii Friction Surface Treatment - mstun	20%	All Other Applicable Crashes						
Recessed Durable Pavement Markings	5%	All Applicable Crashes						
Pedestrian Refuge - Install	50%	Pedestrian Crashes (Review NCHRP Report 841)						
Road Diet (4-3 Lane Conversion) - Install	50%	Suburban - All Applicable Crashes						
Shoulder Rumble Strips	20%	Run-Off the Road Right Crashes						
Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install	20%	Lane Departure***						
Safety Edge Improvement	13%	All non-intersection crashes (CMF Clearing House ID 8658)						

Roadside Enhancements						
Bicycle Lanes - Install per standards	50%	Bicycle Crashes				
Shared Use Path - Install	33%	Bicycle and Pedestrian Related Crashes				
Fixed Objects From Clearzone (Trees, Culverts, Etc.) - Removal	75%	Fixed-Object Applicable Crashes				
Guardrail - Install	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes				
Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes				
Slope Flattening	15%	Fixed-Object, Overturn Applicable Crashes				
Living Snow Fence	20%	Crashes due to wintry surface conditions				
Lighting - install on segment	20%	Dark Unlighted Crashes				
INTERSECTIO	N CRASH REDUC	CTION FACTORS				
Pedestrian	n / Bicycle Enha	incements				
Bump Out / Curb Extension - Remove Parking / Install	30%	All Crashes				
Bicycle Lanes - Install per standards	25%	Bicycle Crashes				
Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes				
	75%	Pedestrian Fatal - Dark Unlighted Crashes				
Intersection Lighting - install	40%	Pedestrian A-Injury - Dark Unlighted Crashes				
	30%	All Applicable Dark Unlighted Crashes				
Rectangular Rapid Flashing Beacons	47%	Pedestrian Crashes				
Ped. Countdown Signals - Install new Pedestrian signal	30%	Pedestrian Crashes				
Ped. Countdown Signals - Upgrade from existing Pedestrian signal	25%	Pedestrian Crashes				
Signal Timing	/ Hardware Er	nhancements				
	3%	Rear-End				
Multiple Low-Cost Improvements	12%	Right-Angle				
	3%	Nighttime				
Install Reflectorized Backplates	15%	All Applicable Crashes				
Add All-Red Clearance Interval - Add per ITE	20%	Head-On Left-Turn, Angle				
Yellow-Change Interval - Increase	10%	All Crash Types				
	65%	Angle				
Box Span Signal - Upgrade from Stop Control	-25%	Rear-End (Increases Crashes)				
	20%	All Other Non Rear-End Crashes				
Box Span Signal - Upgrade from Diagonal Span	10%	All Applicable Crashes+				
Protected Left-Turn Signal Phase - Add	30%	Left-Turn				
Signal Head Size - Increase to 12 "	10%	All Applicable Crashes +				
Signal Optimization & Timing Updates	10%	All Applicable Crashes +				
Removing Night Flash from Signal Timing	50%	Nighttime Flash mode Related Crashes				

	Intersection Geometric Enhancements							
		80%	Rear-End Left-Turn					
	Center Left-Turn Lane - Construct	50%	Head-On Left-Turn					
		20%	Head-On, Angle, Other					
		15%	Non Left-Turn Rear-End					
		30%	Angle					
	Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.)	15%	Rear-End					
	Radii improvements, etc.)	10%	Head-On, Sideswipe, Pedestrian, Bicycle, Left-Turn Related					
	Office Left Town Long Construct	65%	Angle-Turn, Head-On Left-Turn					
	Offset Left-Turn Lane - Construct	20%	Rear-End Left-Turn					
		65%	Angle-Turn					
	Offset Right-Turn Lane - Construct	50%	Other Applicable Crashes					
		20%	Rear-End Right Turn					
	Bisht Town Laws Countries	65%	Rear-End Right-Turn					
	Right-Turn Lane - Construct	20%	Applicable Rear-End Crashes, Sideswipe Same Direction					
	Dd. bt	78%	Fatal and A-Injury Reduction					
	Roundabout	57%	Minor Crash Reduction					
	Lighting	_	See MDOT Interchange Warranted Lighting Guidance and overall					
			MDOT Lighting Guidance					
	General Intersection Enhan	ncements (Non-						
	All-Way Stop Control - New Installation	60%	All Applicable Crashes					
	Ground Mounted Flashing Beacons (Red)- Install **	30%	All Crashes On Install Approach					
	Ground Mounted Flashing Beacons(Amber) - Install **	20%	All Crashes On Install Approach					
	Signing - Improve/Upgrade	30%	Angle, Rear-End Crashes					
	Pavement Markings - Improve/Upgrade	30%	Angle, Rear-End Crashes					
	Reflective Sheeting on Sign Posts (Iollipops)	15%	All Applicable Crashes					

Section 1. Applicant Information					
Agency Name	Van Buren County Road Commission				
Contact Name	Larry Hummel	Title	Engineer - Manager		
Phone Number	269-674-8011	Email	larryhummel@vbcrc.org		

Section 2. Project Information	n			
Project Name/Road Name	Red Arrow Highway			
Township/City/Village	Lawrence Township			
Project Limits (e.g. Napier Ave. to Britain Ave.)	CR 681 to Lawrence Vil	lage limits		
Project Length (nearest hundredth of a mile)	2.19	Proposed Year of Funding	2022	
Primary Work Type	☐ Reconstruct ☒ Restore & Rehabilitate ☐ Roadside Facility ☐ Resurface ☐ Traffic Operations/Safety ☐ Transit ☐ Other			
Project Description	Trench and widen, crush and shape, HMA paving, drainage, and			
(Please provide major work items including sidewalks, utility	pavement markings			
work, ADA upgrades etc.)				

Section 3. Project Funding	
Federal STBG Requested	\$ 1,464,000
State D	\$
CTF	\$
Local Funds	\$ 366,000
Total	\$ 1,830,000
Match Percentage (match/total cost)	20%
Does your agency have the financial capacity to Advance Construct (AC) all or part of this project if necessary? If yes, what is the maximum dollar amount your agency is willing to Advance Construct (AC)?	<ul><li>✓ Yes ☐ No</li><li>Maximum Dollar Amount you can AC?</li><li>\$ 500,000</li></ul>

Section 4. System Pres	ervation			
PASER rating		3		
Current state of drainage		Occasional dr	•	ns ome maintenance required ng, excessive maintenance
Expected increase in Rema	ining	0-3 years	] 4-6	<u>15-20</u>
Service life (RSL)			delines for Geometrics or	<u>1 Local Projects</u>
What guidelines does the	oroject	Reconstruction	• •	. (2-)
conform to?			estoration, and Rehabili	tation (3R)
		☐ ☐ Preventative M	laintenance (PM)	
Section 5. Safety				
Please list the number and (2013-2017) (see Michiga		f crashes within the <sub>locts</sub> for crash data)	proposed project limits o	over the last 5 yrs.
Total Crashes	95		edestrian & Bicycle ashes	0
Fatalities	0	Se	rious Injuries	5
Using the attached Crash Fincluded in the project	Reduction F	actors sheet, please	check each safety coun	ter measure that will be
Describe any other safety improvements this project provide		Shoulder widening ar	nd sign upgrades	
	•			
Section 6. Non-motoriz	zed Impro	vements		
Please explain any pedestr	ian and/or			
bicycle improvements are				
Does this project connect pedestrian/bicycle facility			10	
planned to be completed f		l If you place	e provide a map of the o	onnecting facilities
planned to be completed i	10111 2020	2023:		
Section 7. Regional Co	nnectivity			
What is the most current of this project?			Less than 2000 5000-10,000 Year of count: 2015	∑2000-5000 Above 10,000 Source: VBCRC
National Functional Classif	ication (NF	C) for this roadway	Min Art	
Is the project on an All Season Road			Yes No Not	Sure

Section 8. Strategic Planning & Investment	
Is the project identified in a Asset Management Plan, or Capital Improvement Plan	Yes No If yes, please cite the plan and page number:
Is the project identified in another planning documents such as a master plan or parks and recreation plan	Yes No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	Yes No
If yes, will it be bid as a single project?	Yes No NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	☐ Yes ☒ No If yes, please indicate the project type and construction year:
How many water main breaks have you had at this location in the past five years?	
Is there a completed a utilities assessment that included televising the sewers in the project area?	☐ Yes ⊠ No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	Yes No Not Sure If yes, which items are required:
Does this project perform Resurfacing, Reconstruction, or Preventative Maintenance on a segment adjacent to a segment where a federally-funded project was done during the <a href="https://www.swmpc.org/downloads/rtf">2017-</a> <a href="https://www.swmpc.org/downloads/rtf">https://www.swmpc.org/downloads/rtf</a> region4 20172020 project list.pdf2020 RTF cycle?	Yes No What segment was the PREVIOUS project done on?

	Existing			Proposed			
Number of Vehicle Lanes	Through Traffic Lanes	Center Turn Lane		On Street Parking	Through Traffic Lanes	Center Turn Lane	On Street Parking
	2	0		☐ Yes ⊠ No	2	0	☐ Yes ⊠ No
Shoulder Surface	Paved Unpaved		Width (ft.)		Paved Unpaved		Width (ft.) 7
Sidewalk/ path information	Placement Windows One Side One Sides Intermittent None		dth (ft.)	Placement One Side Both Sides Intermittent None		Width (ft.) 0	
On road bicycle facilities	Bike Lane Other (specify) Sharrows Wide Shoulders None			Bike Lane Other (specify) Sharrows Wide Shoulders None			
Utilities, Sewer and Water	Utilities Upgrades Needed  Sewer and water work needed			Replaced Utilities Relocating Utilities Sewer and Water Line Work			
Please describe and made as part of the crosswalks, signage streetscape elements project description	nis project to ge or signals, or ents not discuss		5 fc	oot paved should	lers for bike lane	25.	

Section 10. Estimated Project Schedule	
Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	7/2021
Project Application Submitted to MOT	8/2021
Grade Inspection Package Submitted to MDOT	9/2021
Grade Inspection Meeting Scheduled	11/2021
Final Plan and Estimate to MDOT	1/2022
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	2/2022
Project Letting	4/2022
Construction Start □	6/2022
Project Completion	11/2022

<sup>\*</sup>Enter NA if these items will not be required.

Proposed Improvement	% Reduction	Associated Crash Types						
SEGMENT CRASH REDUCTION FACTORS								
Geometric Safety Enhancements								
	80%	Rear-End Left-Turn						
	50%	Head-On Left-Turn						
Center Left-Turn Lane - Construct	20%	Head-On, Angle, Sideswipe*						
	15%	Non Left-Turn Rear-End, Other*						
	65%	Rear-End Right-Turn						
	30%	Angle						
Right-Turn Lane - Construct	15%	Rear-End						
	10%	Other*						
Horizontal Curve Flattening	30%	Lane Departure***						
Shoulders - Widen to Standard Width (add 1' each side)	5%	Lane Departure***						
Shoulders - Widen to Standard Width (add 2' each side)	10%	Lane Departure***						
Shoulders - Widen to Standard Width (add 3' each side)	15%	Lane Departure***						
Shoulders - Widen to Standard Width (add 4' each side)	20%	Lane Departure***						
Shoulders - Widen to Standard Width (add 5' each side)	25%	Lane Departure***						
Shoulders - Widen to Standard Width (add 6' each side)	30%	Lane Departure***						
Shoulders - Widen to Standard Width (add 7' each side)	35%	Lane Departure***						
Vertical Curve Modification	20%	All Applicable Crash Types +++						
General S	Segment Enhanc	ements						
Access Management - Improve	15%	Drive-way Related Applicable Crashes						
	44%	K and A injury Applicable Crashes						
Contarling Bumble String Install	46%	Single Vehicle Run off Road Left Crashes						
Centerline Rumble Strips - Install	43%	Sideswipe Same Crashes						
	55%	Sideswipe Opposite Crashes						
High Fristian Confess Treatment Install	35%	Wet Crashes						
High Friction Surface Treatment - Install	20%	All Other Applicable Crashes						
Recessed Durable Pavement Markings	5%	All Applicable Crashes						
Pedestrian Refuge - Install	50%	Pedestrian Crashes (Review NCHRP Report 841)						
Road Diet (4-3 Lane Conversion) - Install	50%	Suburban - All Applicable Crashes						
Shoulder Rumble Strips	20%	Run-Off the Road Right Crashes						
Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install	20%	Lane Departure***						
Safety Edge Improvement	13%	All non-intersection crashes (CMF Clearing House ID 8658)						

	Roadside Enhancements						
	Bicycle Lanes - Install per standards	50%	Bicycle Crashes				
	Shared Use Path - Install	33%	Bicycle and Pedestrian Related Crashes				
	Fixed Objects From Clearzone (Trees, Culverts, Etc.) - Removal	75%	Fixed-Object Applicable Crashes				
	Guardrail - Install	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes				
	Sidewalk for Pedestrians - Construct		Pedestrian Crashes				
	Slope Flattening		Fixed-Object, Overturn Applicable Crashes				
	Living Snow Fence	20%	Crashes due to wintry surface conditions				
	Lighting - install on segment	20%	Dark Unlighted Crashes				
	INTERSECTIO	N CRASH REDUC	CTION FACTORS				
	Pedestrian	n / Bicycle Enha	incements				
	Bump Out / Curb Extension - Remove Parking / Install	30%	All Crashes				
	Bicycle Lanes - Install per standards	25%	Bicycle Crashes				
	Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes				
	☐ Intersection Lighting - install	75%	Pedestrian Fatal - Dark Unlighted Crashes				
		40%	Pedestrian A-Injury - Dark Unlighted Crashes				
		30%	All Applicable Dark Unlighted Crashes				
	Rectangular Rapid Flashing Beacons		Pedestrian Crashes				
	Ped. Countdown Signals - Install new Pedestrian signal	30%	Pedestrian Crashes				
	Ped. Countdown Signals - Upgrade from existing Pedestrian signal	25%	Pedestrian Crashes				
	Signal Timing	/ Hardware Er	nhancements				
		3%	Rear-End				
	Multiple Low-Cost Improvements	12%	Right-Angle				
		3%	Nighttime				
	Install Reflectorized Backplates	15%	All Applicable Crashes				
	Add All-Red Clearance Interval - Add per ITE	20%	Head-On Left-Turn, Angle				
	Yellow-Change Interval - Increase	10%	All Crash Types				
		65%	Angle				
	Box Span Signal - Upgrade from Stop Control	-25%	Rear-End (Increases Crashes)				
		20%	All Other Non Rear-End Crashes				
	Box Span Signal - Upgrade from Diagonal Span	10%	All Applicable Crashes+				
	Protected Left-Turn Signal Phase - Add	30%	Left-Turn				
	Signal Head Size - Increase to 12 "	10%	All Applicable Crashes +				
	Signal Optimization & Timing Updates	10%	All Applicable Crashes +				
	Removing Night Flash from Signal Timing	50%	Nighttime Flash mode Related Crashes				

	Intersection Geometric Enhancements						
		80%	Rear-End Left-Turn				
	Center Left-Turn Lane - Construct	50%	Head-On Left-Turn				
		20%	Head-On, Angle, Other				
		15%	Non Left-Turn Rear-End				
		30%	Angle				
	Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.)	15%	Rear-End				
	Radii improvements, etc.)	10%	Head-On, Sideswipe, Pedestrian, Bicycle, Left-Turn Related				
	Office Left Town Long Construct	65%	Angle-Turn, Head-On Left-Turn				
	Offset Left-Turn Lane - Construct	20%	Rear-End Left-Turn				
		65%	Angle-Turn				
	Offset Right-Turn Lane - Construct	50%	Other Applicable Crashes				
		20%	Rear-End Right Turn				
		65%	Rear-End Right-Turn				
	Right-Turn Lane - Construct	20%	Applicable Rear-End Crashes, Sideswipe Same Direction				
			Fatal and A-Injury Reduction				
	Roundabout	57%	Minor Crash Reduction				
	Lighting	_	See MDOT Interchange Warranted Lighting Guidance and overall				
			MDOT Lighting Guidance				
	General Intersection Enhan	ncements (Non-					
	All-Way Stop Control - New Installation	60%	All Applicable Crashes				
	Ground Mounted Flashing Beacons (Red)- Install **	30%	All Crashes On Install Approach				
	Ground Mounted Flashing Beacons(Amber) - Install **	20%	All Crashes On Install Approach				
	Signing - Improve/Upgrade	30%	Angle, Rear-End Crashes				
	Pavement Markings - Improve/Upgrade	30%	Angle, Rear-End Crashes				
	Reflective Sheeting on Sign Posts (Iollipops)	15%	All Applicable Crashes				

Section 1. Applicant Information						
Agency Name	Van Buren County Road Commission					
Contact Name	Larry Hummel	Title	Engineer-Manager			
Phone Number	269-674-8011	Email	larryhummel@vbcrc.org			

Section 2. Project Information					
Project Name/Road Name	CR 352				
Township/City/Village	Hamilton Township				
Project Limits (e.g. Napier Ave. to Britain Ave.)	CR 215 south to CR 358	3			
Project Length (nearest hundredth of a mile)	2.00	Proposed Year of Funding	2023		
Primary Work Type	☐ Reconstruct ☐ Restore & Rehabilitate ☐ Roadside Facility ☐ Resurface ☐ Traffic Operations/Safety ☐ Transit ☐ Other				
Project Description	Trench and widen, crush and shape, HMA paving, pavement markings				
(Please provide major work	and signage.				
items including sidewalks, utility					
work, ADA upgrades etc.)					

Section 3. Project Funding	
Federal STBG Requested	\$ 1,232,000
State D	\$
CTF	\$
Local Funds	\$ 308,000
Total	\$ 1,540,000
Match Percentage (match/total cost)	20%
Does your agency have the financial capacity to Advance Construct (AC) all or part of this project if necessary? If yes, what is the maximum dollar amount your agency is willing to Advance Construct (AC)?	<ul><li>✓ Yes ☐ No</li><li>Maximum Dollar Amount you can AC?</li><li>\$ 500,000</li></ul>

Section 4. System Preservation						
PASER rating		5				
Current state of drainage		Adequate  Minor and tolerable drainage problems  Occasional drainage problems with some maintenance required  Inadequate drainage, frequent flooding, excessive maintenance required				
Expected increase in Rema	aining	0-3 years	4-6 7-9 10-14			
Service life (RSL) What guidelines does the	nroiect		Use MDOT's <u>Guidelines for Geometrics on Local Projects</u> ☐ Reconstruction (4R)			
conform to?	project		restoration, and Rehabili	tation (3R)		
			Maintenance (PM)	tation (SN)		
		БРТЕVЕПТАТІVЕ	ivialite lance (Fivi)			
Section 5. Safety						
Please list the number and	l severity of	crashes within the	nronosed project limits (	over the last 5 yrs		
(2013-2017) (see Michiga	•		z proposcu project ililiits (	over the last 5 yrs.		
Total Crashes			Pedestrian & Bicycle			
	12	(	Crashes	0		
Fatalities	0	5	Serious Injuries	1		
Using the attached Crash Fincluded in the project	Reduction Fa	ctors sheet, pleas	e check each safety coun	ter measure that will be		
Describe any other safety	Sh	oulder widening a	and sign upgrades.			
improvements this project provide			5.8.1 apg. acco.			
	F. C. C. C.					
Section 6. Non-motoriz	zed Improv	vements				
Please explain any pedestr	rian and/or					
bicycle improvements are	included					
Does this project connect	to an ovictin	g Yes 🔀	lNo.			
pedestrian/bicycle facility			jivo			
planned to be completed t		l It vac nias	ase provide a map of the o	connecting facilities		
Section 7. Regional Co	nnectivity					
What is the most current of	daily traffic c	ount for the limits	s \Big \Big Less than 2000 \Big	2000-5000		
of this project?			5000-10,000	Above 10,000		
			Year of count: 2013	Source: VBCRC		
<u>National Functional Classification</u> (NFC) for this ro			Maj Coll			
Is the project on an All Season Road			Yes No Not	Sure		

Section 8. Strategic Planning & Investment	
Is the project identified in a Asset Management Plan, or Capital Improvement Plan	Yes No If yes, please cite the plan and page number:
Is the project identified in another planning documents such as a master plan or parks and recreation plan	Yes No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	Yes No
If yes, will it be bid as a single project?	Yes No NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	☐ Yes ☑ No If yes, please indicate the project type and construction year:
How many water main breaks have you had at this location in the past five years?	0
Is there a completed a utilities assessment that included televising the sewers in the project area?	Yes No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	Yes No Not Sure If yes, which items are required:
Does this project perform Resurfacing, Reconstruction, or Preventative Maintenance on a segment adjacent to a segment where a federally-funded project was done during the <a href="https://www.swmpc.org/downloads/rtf">2017-</a> <a href="https://www.swmpc.org/downloads/rtf">https://www.swmpc.org/downloads/rtf</a> region4 20172020 project list.pdf2020 RTF cycle?	☐ Yes ☑ No What segment was the PREVIOUS project done on?

		Exist	ing		Proposed			
Number of	Through Center On Street		On Street	Through	Center	On Street		
Vehicle Lanes	Traffic Lanes	Turn La	ne	Parking	Traffic Lanes	Turn Lane	Parking	
	2	0		☐ Yes ⊠ No	2	0	☐ Yes ⊠ No	
Shoulder	Paved	<u>I</u>	Wic	lth (ft.)	□ Paved	<u>I</u>	Width (ft.)	
Surface	Unpaved		2		Unpaved		6	
Sidewalk/ path	Placement		Wic	lth (ft.)	Placement		Width (ft.)	
information	One Side Both Sides Intermittent None				One Side			
					Both Sides	i		
					Intermitte	nt		
					None			
On road bicycle	Bike Lane		Other (specify) 📗 Bike Lane		Othe	er (specify)		
facilities	Sharrows				Sharrows			
	Wide Shou	ılders 🛭	No	ne	Wide Shoulders None		one	
Utilities, Sewer	Utilities Up	grades N	eede	d	Replaced Utilities			
and Water	Sewer and	water wo	ork ne	rk needed Relocating Ut		Utilities	Jtilities	
					Sewer and	Water Line \	Work	
Please describe any improvements being								
made as part of this project to								
crosswalks, signage or signals, or								
streetscape elements not discussed in								
project description								

Section 10. Estimated Project Schedule	
Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	11/2021
Project Application Submitted to MOT	12/2021
Grade Inspection Package Submitted to MDOT	2/2022
Grade Inspection Meeting Scheduled	3/2022
Final Plan and Estimate to MDOT	4/2022
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	8/2022
Project Letting	2/2023
Construction Start $\square$	4/2023
Project Completion	7/2023

<sup>\*</sup>Enter NA if these items will not be required.

	Proposed Improvement	% Reduction	Associated Crash Types						
	SEGMENT CRASH REDUCTION FACTORS								
	Geometric Safety Enhancements								
		80%	Rear-End Left-Turn						
		50%	Head-On Left-Turn						
	Center Left-Turn Lane - Construct	20%	Head-On, Angle, Sideswipe*						
		15%	Non Left-Turn Rear-End, Other*						
		65%	Rear-End Right-Turn						
		30%	Angle						
	Right-Turn Lane - Construct	15%	Rear-End						
		10%	Other*						
	Horizontal Curve Flattening	30%	Lane Departure***						
	Shoulders - Widen to Standard Width (add 1' each side)	5%	Lane Departure***						
	Shoulders - Widen to Standard Width (add 2' each side)	10%	Lane Departure***						
	Shoulders - Widen to Standard Width (add 3' each side)	15%	Lane Departure***						
$\boxtimes$	Shoulders - Widen to Standard Width (add 4' each side)	20%	Lane Departure***						
	Shoulders - Widen to Standard Width (add 5' each side)	25%	Lane Departure***						
	Shoulders - Widen to Standard Width (add 6' each side)	30%	Lane Departure***						
	Shoulders - Widen to Standard Width (add 7' each side)	35%	Lane Departure***						
	Vertical Curve Modification	20%	All Applicable Crash Types +++						
	General S	Segment Enhanc	ements						
	Access Management - Improve	15%	Drive-way Related Applicable Crashes						
		44%	K and A injury Applicable Crashes						
	Centerline Rumble Strips - Install	46%	Single Vehicle Run off Road Left Crashes						
	Centernine Rumbie Strips - mstun	43%	Sideswipe Same Crashes						
		55%	Sideswipe Opposite Crashes						
	High Friction Surface Treatment - Install	35%	Wet Crashes						
	Tigit Precion Surface Treatment - histori	20%	All Other Applicable Crashes						
	Recessed Durable Pavement Markings	5%	All Applicable Crashes						
	Pedestrian Refuge - Install	50%	Pedestrian Crashes (Review NCHRP Report 841)						
	Road Diet (4-3 Lane Conversion) - Install	50%	Suburban - All Applicable Crashes						
	Shoulder Rumble Strips	20%	Run-Off the Road Right Crashes						
	Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install	20%	Lane Departure***						
	Safety Edge Improvement	13%	All non-intersection crashes (CMF Clearing House ID 8658)						

	Roadside Enhancements				
	Bicycle Lanes - Install per standards	50%	Bicycle Crashes		
	Shared Use Path - Install	33%	Bicycle and Pedestrian Related Crashes		
	Fixed Objects From Clearzone (Trees, Culverts, Etc.) - Removal	75%	Fixed-Object Applicable Crashes		
	Guardrail - Install	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes		
	Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes		
	Slope Flattening	15%	Fixed-Object, Overturn Applicable Crashes		
	Living Snow Fence	20%	Crashes due to wintry surface conditions		
	Lighting - install on segment	20%	Dark Unlighted Crashes		
	INTERSECTION CRASH REDUCTION FACTORS				
	Pedestrian / Bicycle Enhancements				
	Bump Out / Curb Extension - Remove Parking / Install	30%	All Crashes		
	Bicycle Lanes - Install per standards	25%	Bicycle Crashes		
	Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes		
		75%	Pedestrian Fatal - Dark Unlighted Crashes		
	Intersection Lighting - install	40%	Pedestrian A-Injury - Dark Unlighted Crashes		
		30%	All Applicable Dark Unlighted Crashes		
	Rectangular Rapid Flashing Beacons	47%	Pedestrian Crashes		
	Ped. Countdown Signals - Install new Pedestrian signal	30%	Pedestrian Crashes		
	Ped. Countdown Signals - Upgrade from existing Pedestrian signal	25%	Pedestrian Crashes		
	Signal Timing	/ Hardware Er	nhancements		
	Multiple Low-Cost Improvements	3%	Rear-End		
		12%	Right-Angle		
		3%	Nighttime		
	Install Reflectorized Backplates	15%	All Applicable Crashes		
	Add All-Red Clearance Interval - Add per ITE	20%	Head-On Left-Turn, Angle		
	Yellow-Change Interval - Increase	10%	All Crash Types		
		65%	Angle		
	Box Span Signal - Upgrade from Stop Control	-25%	Rear-End (Increases Crashes)		
		20%	All Other Non Rear-End Crashes		
	Box Span Signal - Upgrade from Diagonal Span	10%	All Applicable Crashes+		
	Protected Left-Turn Signal Phase - Add	30%	Left-Turn		
	Signal Head Size - Increase to 12 "	10%	All Applicable Crashes +		
	Signal Optimization & Timing Updates	10%	All Applicable Crashes +		
	Removing Night Flash from Signal Timing	50%	Nighttime Flash mode Related Crashes		

	Intersection Geometric Enhancements				
	Center Left-Turn Lane - Construct	80%	Rear-End Left-Turn		
		50%	Head-On Left-Turn		
		20%	Head-On, Angle, Other		
		15%	Non Left-Turn Rear-End		
	Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.)	30%	Angle		
		15%	Rear-End		
		10%	Head-On, Sideswipe, Pedestrian, Bicycle, Left-Turn Related		
		65%	Angle-Turn, Head-On Left-Turn		
	Offset Left-Turn Lane - Construct	20%	Rear-End Left-Turn		
	Offset Right-Turn Lane - Construct	65%	Angle-Turn		
		50%	Other Applicable Crashes		
		20%	Rear-End Right Turn		
	Right-Turn Lane - Construct	65%	Rear-End Right-Turn		
		20%	Applicable Rear-End Crashes, Sideswipe Same Direction		
	Roundabout	78%	Fatal and A-Injury Reduction		
		57%	Minor Crash Reduction		
	Lighting	_	See MDOT Interchange Warranted Lighting Guidance and overall		
			MDOT Lighting Guidance		
	General Intersection Enhancements (Non-Signalized Intersections)				
	All-Way Stop Control - New Installation	60%	All Applicable Crashes		
	Ground Mounted Flashing Beacons (Red)- Install **	30%	All Crashes On Install Approach		
	Ground Mounted Flashing Beacons(Amber) - Install **	20%	All Crashes On Install Approach		
	Signing - Improve/Upgrade	30%	Angle, Rear-End Crashes		
	Pavement Markings - Improve/Upgrade	30%	Angle, Rear-End Crashes		
	Reflective Sheeting on Sign Posts (Iollipops)	15%	All Applicable Crashes		

Section 1. Applicant Information				
Agency Name	Van Buren County Road Commission			
Contact Name	Larry Hummel	Title	Engineer - Manager	
Phone Number	269-674-8011	Email	larryhummel@vbcrc.org	

Section 2. Project Information				
Project Name/Road Name	CR 388			
Township/City/Village	Pine Grove Township / Village of Kendall			
Project Limits (e.g. Napier Ave. to Britain Ave.)	29 <sup>th</sup> St to CR 653 south			
Project Length (nearest hundredth of a mile)	1.5	Proposed Year of Funding	2022	
Primary Work Type	☐ Reconstruct ☒ Restore & Rehabilitate ☐ Roadside Facility ☐ Resurface ☐ Traffic Operations/Safety ☐ Transit ☐ Other			
Project Description	Trench widen, crush and shape, HMA paving, curb and gutter, pavement			
(Please provide major work items including sidewalks, utility	markings, and sign upgrades			
work, ADA upgrades etc.)				

Section 3. Project Funding	
Federal STBG Requested	\$ 1,432,000
State D	\$
CTF	\$
Local Funds	\$ 358,000
Total	\$ 1,790,000
Match Percentage (match/total cost)	20%
Does your agency have the financial capacity to Advance Construct (AC) all or part of this project if necessary? If yes, what is the maximum dollar amount your agency is willing to Advance Construct (AC)?	<ul><li>✓ Yes ☐ No</li><li>Maximum Dollar Amount you can AC?</li><li>\$ 500,000</li></ul>

Section 4. System Pres	ervation				
PASER rating		2			
Current state of drainage		Occasional	<ul> <li>✓ Minor and tolerable drainage problems</li> <li>✓ Occasional drainage problems with some maintenance required</li> <li>✓ Inadequate drainage, frequent flooding, excessive maintenance</li> </ul>		
Expected increase in Rema	aining	0-3 years			
Service life (RSL) What guidelines does the	nroiost	Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>			
conform to?	project		<ul><li>☐ Reconstruction (4R)</li><li>☒ Resurfacing, restoration, and Rehabilitation (3R)</li></ul>		
comorm to:			e Maintenance (PM)	itation (SN)	
			e ividifice (Pivi)		
Section 5. Safety					
•	l agranitur of	والمراس والماري والمراس والمراس		aver the last Five	
Please list the number and (2013-2017) (see Michigan	•		• • •	over the last 5 yrs.	
Total Crashes		ioi crasii data)	Pedestrian & Bicycle		
Total Grasiles	19		Crashes	0	
Fatalities	0		Serious Injuries	0	
Using the attached Crash Fincluded in the project	Reduction Fa	ictors sheet, plea	se check each safety cou	nter measure that will be	
Describe any other safety improvements this project provide	noulder widening	and sign upgrades			
	1				
Section 6. Non-motoriz	zed Improv	vements			
Please explain any pedestr	rian and/or				
bicycle improvements are					
Does this project connect			No		
pedestrian/bicycle facility		l It vac nia	ase provide a map of the	connecting facilities	
planned to be completed from 2020-2023? If yes, please provide a map of the connecting facilities					
Section 7. Regional Co	nnectivity				
<u> </u>		sount for the limit	ts VI ass than 2000		
What is the most current of this project?	ially traffic (	ount for the limit	ts	2000-5000 Above 10,000 Source: VBCRC	
National Functional Classification (NFC) for this r				200.00.720.00	
			iviaj cen	ot Sure	
Is the project on an All Season Road			YesNoNo	n Sui e	

Section 8. Strategic Planning & Investment	
Is the project identified in a Asset Management Plan, or Capital Improvement Plan	Yes No If yes, please cite the plan and page number:
Is the project identified in another planning documents such as a master plan or parks and recreation plan	Yes No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	Yes No
If yes, will it be bid as a single project?	Yes No NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	☐ Yes ☒ No If yes, please indicate the project type and construction year:
How many water main breaks have you had at this location in the past five years?	
Is there a completed a utilities assessment that included televising the sewers in the project area?	☐ Yes ⊠ No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	Yes No Not Sure If yes, which items are required:
Does this project perform Resurfacing, Reconstruction, or Preventative Maintenance on a segment adjacent to a segment where a federally-funded project was done during the <a href="https://www.swmpc.org/downloads/rtf">2017-</a> <a href="https://www.swmpc.org/downloads/rtf">https://www.swmpc.org/downloads/rtf</a> region4 20172020 project list.pdf2020 RTF cycle?	Yes No What segment was the PREVIOUS project done on?

		ng and Proposed Roadway Design			Dyonood		
Number of Vehicle Lanes	Through Traffic Lanes	Exist Center Turn La		On Street Parking	Through Traffic Lanes	Center Turn Lane	On Street Parking
	2	0		☐ Yes ⊠ No	2	0	☐ Yes ⊠ No
Shoulder Surface	Paved Unpaved	l	2	dth (ft.)	Paved Unpaved	l	Width (ft.)
Sidewalk/ path information	Placement Width (ft.)  One Side  Both Sides  Intermittent  None		dth (ft.)	Placement One Side Both Sides Intermittent None		Width (ft.) 0	
On road bicycle facilities	Bike Lane Other (specify) Sharrows Wide Shoulders None		☐ Bike Lane ☐ Other (specify) ☐ Sharrows ☐ Wide Shoulders ☐ None				
Utilities, Sewer and Water	Utilities Upgrades Needed Sewer and water work needed		Replaced Utilities Relocating Utilities Sewer and Water Line Work				
Please describe any improvements being made as part of this project to crosswalks, signage or signals, or streetscape elements not discussed in project description							

Section 10. Estimated Project Schedule	
Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	3/2021
Project Application Submitted to MOT	4/2021
Grade Inspection Package Submitted to MDOT	6/2021
Grade Inspection Meeting Scheduled	7/2021
Final Plan and Estimate to MDOT	8/2021
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	10/2021
Project Letting	11/2021
Construction Start □	4/2022
Project Completion	8/2022

<sup>\*</sup>Enter NA if these items will not be required.

	Proposed Improvement	% Reduction	Associated Crash Types			
	SEGMENT (	CRASH REDUCTION	ON FACTORS			
	Geometric Safety Enhancements					
		80%	Rear-End Left-Turn			
		50%	Head-On Left-Turn			
	Center Left-Turn Lane - Construct	20%	Head-On, Angle, Sideswipe*			
		15%	Non Left-Turn Rear-End, Other*			
		65%	Rear-End Right-Turn			
		30%	Angle			
	Right-Turn Lane - Construct	15%	Rear-End			
		10%	Other*			
	Horizontal Curve Flattening	30%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 1' each side)	5%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 2' each side)	10%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 3' each side)	15%	Lane Departure***			
$\boxtimes$	Shoulders - Widen to Standard Width (add 4' each side)	20%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 5' each side)	25%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 6' each side)	30%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 7' each side)	35%	Lane Departure***			
	Vertical Curve Modification	20%	All Applicable Crash Types +++			
	General Segment Enhancements					
	Access Management - Improve	15%	Drive-way Related Applicable Crashes			
		44%	K and A injury Applicable Crashes			
	Centerline Rumble Strips - Install	46%	Single Vehicle Run off Road Left Crashes			
	Centernine Rumbie Strips - mstun	43%	Sideswipe Same Crashes			
		55%	Sideswipe Opposite Crashes			
	High Friction Surface Treatment - Install	35%	Wet Crashes			
	Tigit Frection Surface Treatment - histori	20%	All Other Applicable Crashes			
	Recessed Durable Pavement Markings	5%	All Applicable Crashes			
	Pedestrian Refuge - Install	50%	Pedestrian Crashes (Review NCHRP Report 841)			
	Road Diet (4-3 Lane Conversion) - Install	50%	Suburban - All Applicable Crashes			
	Shoulder Rumble Strips	20%	Run-Off the Road Right Crashes			
	Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install	20%	Lane Departure***			
	Safety Edge Improvement	13%	All non-intersection crashes (CMF Clearing House ID 8658)			

Roadside Enhancements				
Bicycle Lanes - Install per standards	50%	Bicycle Crashes		
Shared Use Path - Install	33%	Bicycle and Pedestrian Related Crashes		
Fixed Objects From Clearzone (Trees, Culverts, Etc.) - Removal	75%	Fixed-Object Applicable Crashes		
Guardrail - Install	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes		
Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes		
Slope Flattening	15%	Fixed-Object, Overturn Applicable Crashes		
Living Snow Fence	20%	Crashes due to wintry surface conditions		
Lighting - install on segment	20%	Dark Unlighted Crashes		
INTERSECTIO	N CRASH REDUC	CTION FACTORS		
Pedestrian	n / Bicycle Enha	incements		
Bump Out / Curb Extension - Remove Parking / Install	30%	All Crashes		
Bicycle Lanes - Install per standards	25%	Bicycle Crashes		
Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes		
	75%	Pedestrian Fatal - Dark Unlighted Crashes		
Intersection Lighting - install	40%	Pedestrian A-Injury - Dark Unlighted Crashes		
	30%	All Applicable Dark Unlighted Crashes		
Rectangular Rapid Flashing Beacons	47%	Pedestrian Crashes		
Ped. Countdown Signals - Install new Pedestrian signal	30%	Pedestrian Crashes		
Ped. Countdown Signals - Upgrade from existing Pedestrian signal	25%	Pedestrian Crashes		
Signal Timing	/ Hardware Er	nhancements		
	3%	Rear-End		
Multiple Low-Cost Improvements	12%	Right-Angle		
	3%	Nighttime		
Install Reflectorized Backplates	15%	All Applicable Crashes		
Add All-Red Clearance Interval - Add per ITE	20%	Head-On Left-Turn, Angle		
Yellow-Change Interval - Increase	10%	All Crash Types		
	65%	Angle		
Box Span Signal - Upgrade from Stop Control	-25%	Rear-End (Increases Crashes)		
	20%	All Other Non Rear-End Crashes		
Box Span Signal - Upgrade from Diagonal Span	10%	All Applicable Crashes+		
Protected Left-Turn Signal Phase - Add	30%	Left-Turn		
Signal Head Size - Increase to 12 "	10%	All Applicable Crashes +		
Signal Optimization & Timing Updates	10%	All Applicable Crashes +		
Removing Night Flash from Signal Timing	50%	Nighttime Flash mode Related Crashes		

	Intersection Geometric Enhancements				
		80%	Rear-End Left-Turn		
	Contact of Town Laws Construct	50%	Head-On Left-Turn		
	Center Left-Turn Lane - Construct	20%	Head-On, Angle, Other		
		15%	Non Left-Turn Rear-End		
		30%	Angle		
	Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.)	15%	Rear-End		
	Radii improvements, Etc.)	10%	Head-On, Sideswipe, Pedestrian, Bicycle, Left-Turn Related		
		65%	Angle-Turn, Head-On Left-Turn		
	Offset Left-Turn Lane - Construct	20%	Rear-End Left-Turn		
		65%	Angle-Turn		
	Offset Right-Turn Lane - Construct	50%	Other Applicable Crashes		
		20%	Rear-End Right Turn		
		65%	Rear-End Right-Turn		
	Right-Turn Lane - Construct	20%	Applicable Rear-End Crashes, Sideswipe Same Direction		
		78%	Fatal and A-Injury Reduction		
	Roundabout	57%	Minor Crash Reduction		
	Lighting		See MDOT Interchange Warranted Lighting Guidance and overall		
			MDOT Lighting Guidance		
	General Intersection Enhan	ncements (Non-			
	All-Way Stop Control - New Installation	60%	All Applicable Crashes		
	Ground Mounted Flashing Beacons (Red)- Install **	30%	All Crashes On Install Approach		
	Ground Mounted Flashing Beacons(Amber) - Install **	20%	All Crashes On Install Approach		
	Signing - Improve/Upgrade	30%	Angle, Rear-End Crashes		
	Pavement Markings - Improve/Upgrade	30%	Angle, Rear-End Crashes		
	Reflective Sheeting on Sign Posts (Iollipops)	15%	All Applicable Crashes		

## Rural Task Force Region Four Road Project Application

Section 1. Applicant Information				
Agency Name	Van Buren County Road Commission			
Contact Name	Larry Hummel	Title	Engineer - Manager	
Phone Number	269-674-8011	Email	larryhummel@vbcrc.org	

Section 2. Project Informatio	n		
Project Name/Road Name	CR 388		
Township/City/Village	Bloomingdale Township		
Project Limits (e.g. Napier Ave. to Britain Ave.)	CR 384 to Bloomingdal	e Village limits	
Project Length (nearest hundredth of a mile)	1.11	Proposed Year of Funding	2021
Primary Work Type		ore & Rehabilitate □ Roadsi Operations/Safety □ Transi	•
Project Description	•	sh and shape, HMA paving, d	rainage and
(Please provide major work	pavement markings.		
items including sidewalks, utility			
work, ADA upgrades etc.)			

Section 3. Project Funding	
Federal STBG Requested	\$ 952,000
State D	\$
CTF	\$
Local Funds	\$ 238,000
Total	\$ 1,190,000
Match Percentage (match/total cost)	20%
Does your agency have the financial capacity to Advance Construct (AC) all or part of this project if necessary? If yes, what is the maximum dollar amount your agency is willing to Advance Construct (AC)?	<ul><li>✓ Yes ☐ No</li><li>Maximum Dollar Amount you can AC?</li><li>\$ 500,000</li></ul>

Section 4. System Pres	ervation				
PASER rating		2			
Current state of drainage		Occasional d	<ul> <li>✓ Minor and tolerable drainage problems</li> <li>✓ Occasional drainage problems with some maintenance required</li> <li>✓ Inadequate drainage, frequent flooding, excessive maintenance</li> </ul>		
Expected increase in Rema	ining	0-3 years	4-6 7-9 10-14		
Service life (RSL)			Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>		
What guidelines does the conform to?	project	☐ Reconstruction	• •	hatian (2D)	
comorni to:			restoration, and Rehabilit	tation (3K)	
			Maintenance (PM)		
Section 5. Safety					
•		· · · · · · · · · · · · · · · · · · ·			
Please list the number and (2013-2017) (see Michiga	•	cts for crash data)	proposed project limits of	over the last 5 yrs.	
Total Crashes			edestrian & Bicycle		
Total Grasiles	15		Crashes	0	
Fatalities	0	S	erious Injuries	1	
Using the attached Crash Fincluded in the project	Reduction F	actors sheet, please	e check each safety coun	ter measure that will be	
Describe any other safety improvements this project provide		shoulder widening			
	1				
Section 6. Non-motoriz	zed Impro	vements			
Please explain any pedestr	ian and/or				
bicycle improvements are					
Doos this project connect:	ta an avisti	ng Yes 🖂	N o		
Does this project connect pedestrian/bicycle facility			INO		
planned to be completed f		l If vac nlaa	se provide a map of the c	onnecting facilities	
p					
Section 7. Regional Co	nnectivity				
What is the most current daily traffic co of this project?		count for the limits	Less than 2000 5000-10,000 Year of count: 2014	2000-5000 Above 10,000 Source: VBCRC	
National Functional Classif	ication (NF	C) for this roadway	Maj Coll		
Is the project on an All Sea	son Road		Yes No Not	Sure	

Section 8. Strategic Planning & Investment	
Is the project identified in a Asset Management Plan, or Capital Improvement Plan	Yes No If yes, please cite the plan and page number:
Is the project identified in another planning documents such as a master plan or parks and recreation plan	Yes No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	☐ Yes ⊠ No
If yes, will it be bid as a single project?	Yes No NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	Yes No If yes, please indicate the project type and construction year:
How many water main breaks have you had at this location in the past five years?	
Is there a completed a utilities assessment that included televising the sewers in the project area?	☐ Yes ⊠ No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	Yes No Not Sure If yes, which items are required:
Does this project perform Resurfacing, Reconstruction, or Preventative Maintenance on a segment adjacent to a segment where a federally-funded project was done during the 2017- https://www.swmpc.org/downloads/rtf_region4_20172020_project_list.pdf2020 RTF_cycle?	Yes No What segment was the PREVIOUS project done on? W. Kalamazoo St in Village of Bloomingdale scheduled for 2020

	ng and Proposed Roadway Design  Existing			Proposed			
Number of Vehicle Lanes	r of Through Center			On Street Parking	Through Traffic Lanes	Center Turn Lane	On Street Parking
	2	0		☐ Yes ⊠ No	2	0	☐ Yes ⊠ No
Shoulder Surface	Paved Width (ft. \(\simeg\) Unpaved 2					Width (ft.) 6	
Sidewalk/ path information	Placement Windows One Side O  Both Sides Intermittent None		dth (ft.)	Placement One Side Both Sides Intermittent None		Width (ft.) 0	
On road bicycle facilities	Bike Lane Other (specify) Sharrows Wide Shoulders None			Bike Lane Other (specify) Sharrows Wide Shoulders None			
Utilities, Sewer and Water	Utilities Upgrades Needed  Sewer and water work needed			Replaced Utilities Relocating Utilities Sewer and Water Line Work			
Please describe any improvements being made as part of this project to crosswalks, signage or signals, or streetscape elements not discussed in project description							

Section 10. Estimated Project Schedule	
Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	8/2020
Project Application Submitted to MOT	9/2020
Grade Inspection Package Submitted to MDOT	11/2020
Grade Inspection Meeting Scheduled	12/2020
Final Plan and Estimate to MDOT	1/2021
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	3/2021
Project Letting	5/2021
Construction Start □	7/2021
Project Completion	10/2021

<sup>\*</sup>Enter NA if these items will not be required.

	Proposed Improvement	% Reduction	Associated Crash Types			
	SEGMENT CRASH REDUCTION FACTORS					
	Geometric Safety Enhancements					
		80%	Rear-End Left-Turn			
		50%	Head-On Left-Turn			
	Center Left-Turn Lane - Construct	20%	Head-On, Angle, Sideswipe*			
		15%	Non Left-Turn Rear-End, Other*			
		65%	Rear-End Right-Turn			
	Pinks Town Long. Construct	30%	Angle			
	Right-Turn Lane - Construct	15%	Rear-End			
		10%	Other*			
	Horizontal Curve Flattening	30%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 1' each side)	5%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 2' each side)	10%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 3' each side)	15%	Lane Departure***			
$\boxtimes$	Shoulders - Widen to Standard Width (add 4' each side)	20%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 5' each side)	25%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 6' each side)	30%	Lane Departure***			
	Shoulders - Widen to Standard Width (add 7' each side)	35%	Lane Departure***			
	Vertical Curve Modification	20%	All Applicable Crash Types +++			
	General S	egment Enhanc	ements			
	Access Management - Improve	15%	Drive-way Related Applicable Crashes			
		44%	K and A injury Applicable Crashes			
	Centerline Rumble Strips - Install	46%	Single Vehicle Run off Road Left Crashes			
	Centernine Rumbie Surps - mstun	43%	Sideswipe Same Crashes			
		55%	Sideswipe Opposite Crashes			
	High Friction Surface Treatment - Install	35%	Wet Crashes			
	rigit riction surface freatment - mstun	20%	All Other Applicable Crashes			
	Recessed Durable Pavement Markings	5%	All Applicable Crashes			
	Pedestrian Refuge - Install	50%	Pedestrian Crashes (Review NCHRP Report 841)			
	Road Diet (4-3 Lane Conversion) - Install	50%	Suburban - All Applicable Crashes			
	Shoulder Rumble Strips	20%	Run-Off the Road Right Crashes			
	Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install	20%	Lane Departure***			
	Safety Edge Improvement	13%	All non-intersection crashes (CMF Clearing House ID 8658)			

Roadside Enhancements					
Bicycle Lanes - Install per standards	50%	Bicycle Crashes			
Shared Use Path - Install		Bicycle and Pedestrian Related Crashes			
Fixed Objects From Clearzone (Trees, Culverts, Etc.) - Removal		Fixed-Object Applicable Crashes			
Guardrail - Install	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes			
Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes			
Slope Flattening	15%	Fixed-Object, Overturn Applicable Crashes			
Living Snow Fence	20%	Crashes due to wintry surface conditions			
Lighting - install on segment	20%	Dark Unlighted Crashes			
INTERSECTION CRASH REDUCTION FACTORS					
Pedestrian	/ Bicycle Enha	incements			
Bump Out / Curb Extension - Remove Parking / Install	30%	All Crashes			
Bicycle Lanes - Install per standards	25%	Bicycle Crashes			
Sidewalk for Pedestrians - Construct	85%	Pedestrian Crashes			
	75%	Pedestrian Fatal - Dark Unlighted Crashes			
Intersection Lighting - install	40%	Pedestrian A-Injury - Dark Unlighted Crashes			
	30%	All Applicable Dark Unlighted Crashes			
Rectangular Rapid Flashing Beacons	47%	Pedestrian Crashes			
Ped. Countdown Signals - Install new Pedestrian signal	30%	Pedestrian Crashes			
Ped. Countdown Signals - Upgrade from existing Pedestrian signal	25%	Pedestrian Crashes			
Signal Timing	/ Hardware Er	nhancements			
	3%	Rear-End			
Multiple Low-Cost Improvements	12%	Right-Angle			
	3%	Nighttime			
Install Reflectorized Backplates	15%	All Applicable Crashes			
Add All-Red Clearance Interval - Add per ITE	20%	Head-On Left-Turn, Angle			
Yellow-Change Interval - Increase	10%	All Crash Types			
	65%	Angle			
Box Span Signal - Upgrade from Stop Control	-25%	Rear-End (Increases Crashes)			
	20%	All Other Non Rear-End Crashes			
Box Span Signal - Upgrade from Diagonal Span	10%	All Applicable Crashes+			
Protected Left-Turn Signal Phase - Add	30%	Left-Turn			
Signal Head Size - Increase to 12 "	10%	All Applicable Crashes +			
Signal Optimization & Timing Updates	10% 50%	All Applicable Crashes +			
Removing Night Flash from Signal Timing		Nighttime Flash mode Related Crashes			

	Intersection Geometric Enhancements					
		80%	Rear-End Left-Turn			
	Center Left-Turn Lane - Construct	50%	Head-On Left-Turn			
	Center Left-Turn Lane - Construct	20%	Head-On, Angle, Other			
		15%	Non Left-Turn Rear-End			
	Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.)	30%	Angle			
		15%	Rear-End			
		10%	Head-On, Sideswipe, Pedestrian, Bicycle, Left-Turn Related			
	Office Loft Town Long. Construct	65%	Angle-Turn, Head-On Left-Turn			
	Offset Left-Turn Lane - Construct	20%	Rear-End Left-Turn			
		65%	Angle-Turn			
	fset Right-Turn Lane - Construct	50%	Other Applicable Crashes			
		20%	Rear-End Right Turn			
		65%	Rear-End Right-Turn			
	Right-Turn Lane - Construct	20%	Applicable Rear-End Crashes, Sideswipe Same Direction			
	Daywelshaut	78%	Fatal and A-Injury Reduction			
	Roundabout	57%	Minor Crash Reduction			
	Lighting	_	See MDOT Interchange Warranted Lighting Guidance and overall			
			MDOT Lighting Guidance			
	General Intersection Enhancements (Non-Signalized Intersections)					
	All-Way Stop Control - New Installation	60%	All Applicable Crashes			
	Ground Mounted Flashing Beacons (Red)- Install **	30%	All Crashes On Install Approach			
	Ground Mounted Flashing Beacons(Amber) - Install **		All Crashes On Install Approach			
	Signing - Improve/Upgrade		Angle, Rear-End Crashes			
	Pavement Markings - Improve/Upgrade	30%	Angle, Rear-End Crashes			
	Reflective Sheeting on Sign Posts (Iollipops)	15%	All Applicable Crashes			