

2.1

NATS Road Project Prioritization System


Project Name: Coke St.Agency: CSS CRCProposed Year: 2020Total Points: 23

Criteria	Points	
System Preservation	21 points max	
a. Most recent PASER rating		
3-4	(11)	11
5-6	8	
1-2	5	
b. Extension of Remaining Service Life (RSL) based on MDOT Geometric Guidelines		
Extends RSL by 15 years or more (4R project)	10	
Extends RSL by 10-14 years (3R Project)	6	
Extends RSL by 5-9 years (Preventative Maintenance)	(4)	4
Extends RSL by 2-4 years (Preventative Maintenance)	2	
Safety	10 points max	
a. Expected Crash Reduction - Based on MDOT approved Crash Reduction Factors		
50% or greater	7	
40%-49.9%	6	
30% - 39.9%	5	
20% - 29.9%	4	
10% - 19.9%	2	
Less than 10%	0	
b. Addressing High Crash Locations.		
Number of crashes is 20% higher than MPO median (4 or more)	3	
Number of crashes are within 20% of MPO median (2-3)	(1)	1
Number of crashes is lower than 20% of the MPO median (0-1)	0	
Non-motorized Transportation	4 points max	
a. Project provides pedestrian or bicycle facilities	(2)	2
b. Pedestrian and bicycle elements of the project connect to existing bicycle and pedestrian facilities or those that can reasonably be expected to be completed between 2019-2023.	(2)	2

Criteria	Points	
Regional Connectivity	5 points max	
a. Traffic Count based on the average daily traffic (ADT)		
ADT is 10,000 or more	5	
ADT is 5,000 – 9,999	4	
ADT is 2,000 – 4,999	③	3
Strategic Investment/ Project Planning	10 points max	
a. Project is identified in an Asset Management or Capital Improvement Plan	3	
b. Project is identified as a priority in another planning document such as a master plan or parks and recreation plan	1	
c. Project crosses jurisdictional boundaries (i.e. city to township) and is arranged in such a way to be bid as a single project.	1	
d. Project continues resurfacing, reconstruction or Preventative Maintenance on a segment of roadway adjacent to a resurfacing, reconstruction or Preventative project done during the 2017-2020 TIP cycle or through Rural Task Force funding.	2	
e. Additional Local Match		
Agency will provide 40% or more local match	3	
Agency will provide 30% to 39.9% local match	2	
Note: An 18.15% local match is the minimum required		
Project Readiness (no points)	Yes	
Coordination with Sewer (no points)	Yes	

Total Score (out of 50)	23
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Niles-Buchanan-Cass Area Transportation Study
2020-2023 Transportation Improvement Program (TIP)
Federal Surface Transportation Block Grant Funds
Project Application


2.1

Click "Enable Editing" to begin filling out this form. You may save this form at any time.

Section 1. Applicant Information

Agency Name	Cass County Road Commission		
Contact Name	Joe Bellina	Title	Chief Engineer
Phone Number	269-445-8611	Email	jbellina@casscoroad.com

Section 2. Project Information

Project Name/Road Name	Lake Street		
Project Limits (e.g. Oak St. to Regent St.)	Airport Road to Huntly Road		
Project Length (nearest hundredth of a mile)	1.51	Proposed Year of Funding	2020
Primary Work Type	<input type="checkbox"/> Reconstruct <input type="checkbox"/> Restore & Rehabilitate <input type="checkbox"/> Roadside Facility <input checked="" type="checkbox"/> Resurface <input type="checkbox"/> Traffic Operations/Safety <input type="checkbox"/> Other		
Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.)	Mill and replace surface to travel lanes and paved shoulders and pavement markings.		
Was this project awarded funding for the 2017-2020 TIP, but was either canceled or failed to be obligated	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, please explain:		

Section 3. Project Funding

Federal Funding Requested	\$ 233,190.65
Local Match (18.15% minimum)	\$ 51,709.35
Total	\$ 284,900
Local Match Percentage (local match/total cost)	18.15%
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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No Maximum Dollar Amount you can AC? \$

Section 4. System Preservation

2017 <u>PASER</u> rating	3
Current state of drainage	<input checked="" type="checkbox"/> Adequate <input type="checkbox"/> Minor and tolerable drainage problems <input type="checkbox"/> Occasional drainage problems with some maintenance required <input type="checkbox"/> Inadequate drainage, frequent flooding, excessive maintenance required
Expected increase in Remaining Service life (RSL)	<input type="checkbox"/> 0-3 years <input type="checkbox"/> 4-6 <input checked="" type="checkbox"/> 7-9 <input type="checkbox"/> 10-14 <input type="checkbox"/> 15-20 Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>
What MDOT guidelines does the project conform to?	<input type="checkbox"/> Reconstruction (4R) <input type="checkbox"/> Resurfacing, restoration, and Rehabilitation (3R) <input checked="" type="checkbox"/> Preventative Maintenance (PM)

Section 5. Safety

Please list the number and severity of crashes within the proposed project limits over the last 5 yrs. (2013-2017) (see <u>Michigan Crash Facts</u> for crash data)			
Total Crashes	19	Pedestrian & Bicycle Crashes	0
Fatalities	0	Serious Injuries	0
Using the attached Crash Reduction Factors sheet, please check each safety counter measure that will be included in the project			
Describe any other safety improvements this project will provide			

Section 6. Non-motorized Improvements

Please explain any pedestrian and/or bicycle improvements are included	
Does this project connect to an existing pedestrian/bicycle facility or one that is planned to be completed from 2020-2023?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please provide a map of the connecting facilities

Section 7. Regional Connectivity

What is the most current daily traffic count for the limits of this project?	<input type="checkbox"/> Less than 2000 <input checked="" type="checkbox"/> 2000-5000 <input type="checkbox"/> 5000-10,000 <input type="checkbox"/> Above 10,000 Year of count: 2003 Source: CCRC
National Functional Classification (NFC) for this roadway (Berrien County NFC Map, Cass County NFC Map)	Minor Arterial

Section 8. Strategic Planning & Investment

Is the project identified in a Asset Management Plan, or Capital Improvement Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, will it be bid as a single project?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	None
Is there a completed a utilities assessment that included televising the sewers in the project area?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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 <u>2017-2020 NATS TIP</u> cycle or <u>RTF</u> cycle?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No What segment was the PREVIOUS project done on?

Section 9. Existing and Proposed Roadway Design

	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		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Shoulder Surface	<input checked="" type="checkbox"/> Paved <input type="checkbox"/> Unpaved		Width (ft.) 6	<input checked="" type="checkbox"/> Paved <input type="checkbox"/> Unpaved		Width (ft.) 6
Sidewalk/ path information	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)
On road bicycle facilities	<input checked="" type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input type="checkbox"/> None			<input checked="" type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input type="checkbox"/> None		
Utilities, Sewer and Water	<input type="checkbox"/> Utilities Upgrades Needed <input type="checkbox"/> Sewer and water work needed			<input type="checkbox"/> Replaced Utilities <input type="checkbox"/> Relocating Utilities <input type="checkbox"/> 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						
Does this project enhance connectivity of pedestrian or bicyclists to fixed route or Dial-A-Ride transit?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, how?			

Section 10. Estimated Project Schedule

Activity	Estimated Date
Resolution of Support for <input type="checkbox"/> Local Match Submitted to SWMPC	November 2019
Project Application Submitted to MOT	November 2019
Grade Inspection Package Submitted to MDOT	November 2019
Grade Inspection Meeting Scheduled	December 2019
Final Plan and Estimate to MDOT	January 2020
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	February 2020
Project Letting	April 2020
Construction Start <input type="checkbox"/>	May 2020
Project Completion	September 2020

*Enter NA if these items will not be required.

2.2

NATS Road Project Prioritization System

Project Name: *Mason St.*Agency: *Cass CRC*Proposed Year: *2021*Total Points: *13*

Criteria	Points	
System Preservation	21 points max	
a. Most recent PASER rating		
3-4	11	
5-6	8	
1-2	<i>5</i>	<i>5</i>
b. Extension of Remaining Service Life (RSL) based on MDOT Geometric Guidelines		
Extends RSL by 15 years or more (4R project)	10	
Extends RSL by 10-14 years (3R Project)	<i>6</i>	<i>6</i>
Extends RSL by 5-9 years (Preventative Maintenance)	4	
Extends RSL by 2-4 years (Preventative Maintenance)	2	
Safety	10 points max	
a. Expected Crash Reduction - Based on MDOT approved Crash Reduction Factors		
50% or greater	7	
40%-49.9%	6	
30% - 39.9%	5	
20% - 29.9%	4	
10% - 19.9%	2	
Less than 10%	<i>0</i>	<i>0</i>
b. Addressing High Crash Locations.		
Number of crashes is 20% higher than MPO median (4 or more)	3	
Number of crashes are within 20% of MPO median (2-3)	1	
Number of crashes is lower than 20% of the MPO median (0-1)	<i>0</i>	<i>0</i>
Non-motorized Transportation	4 points max	
a. Project provides pedestrian or bicycle facilities	2	
b. Pedestrian and bicycle elements of the project connect to existing bicycle and pedestrian facilities or those that can reasonably be expected to be completed between 2019-2023.	2	

Criteria	Points	
Regional Connectivity	5 points max	
a. Traffic Count based on the average daily traffic (ADT)		
ADT is 10,000 or more	5	
ADT is 5,000 – 9,999	4	
ADT is 2,000 – 4,999	3	
Strategic Investment/ Project Planning	10 points max	
a. Project is identified in an Asset Management or Capital Improvement Plan	3	
b. Project is identified as a priority in another planning document such as a master plan or parks and recreation plan	1	
c. Project crosses jurisdictional boundaries (i.e. city to township) and is arranged in such a way to be bid as a single project.	1	
d. Project continues resurfacing, reconstruction or Preventative Maintenance on a segment of roadway adjacent to a resurfacing, reconstruction or Preventative project done during the 2017-2020 TIP cycle or through Rural Task Force funding.	2	
e. Additional Local Match		
Agency will provide 40% or more local match	3	
Agency will provide 30% to 39.9% local match	2	2
Note: An 18.15% local match is the minimum required		
Project Readiness (no points)	Yes	
Coordination with Sewer (no points)	Yes	

Total Score (out of 50)	13
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2.2

Niles-Buchanan-Cass Area Transportation Study 2020-2023 Transportation Improvement Program (TIP) Federal Surface Transportation Block Grant Funds Project Application

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Section 1. Applicant Information

Agency Name	Cass County Road Commission		
Contact Name	Joe Bellina	Title	Chief Engineer
Phone Number	269-445-8611	Email	jbellina@casscoroad.com

Section 2. Project Information

Project Name/Road Name	Mason Street		
Project Limits (e.g. Oak St. to Regent St.)	Calvin Center Road to Tharp Lake Road		
Project Length (nearest hundredth of a mile)	.99	Proposed Year of Funding	2021
Primary Work Type	<input type="checkbox"/> Reconstruct <input checked="" type="checkbox"/> Restore & Rehabilitate <input type="checkbox"/> Roadside Facility <input type="checkbox"/> Resurface <input type="checkbox"/> Traffic Operations/Safety <input type="checkbox"/> Other		
Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.)	Crush and Shape and Resurfacing of travel lanes, signage, and pavement markings.		
Was this project awarded funding for the 2017-2020 TIP, but was either canceled or failed to be obligated	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:		

Section 3. Project Funding

Federal Funding Requested	\$ 229,000.00
Local Match (18.15% minimum)	\$ 100,000.00
Total	\$ 329,000.00
Local Match Percentage (local match/total cost)	30.40%
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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No Maximum Dollar Amount you can AC? \$

Section 4. System Preservation

2017 <u>PASER</u> rating	2
Current state of drainage	<input type="checkbox"/> Adequate <input checked="" type="checkbox"/> Minor and tolerable drainage problems <input type="checkbox"/> Occasional drainage problems with some maintenance required <input type="checkbox"/> Inadequate drainage, frequent flooding, excessive maintenance required
Expected increase in Remaining Service life (RSL)	<input type="checkbox"/> 0-3 years <input type="checkbox"/> 4-6 <input type="checkbox"/> 7-9 <input checked="" type="checkbox"/> 10-14 <input type="checkbox"/> 15-20 Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>
What MDOT guidelines does the project conform to?	<input type="checkbox"/> Reconstruction (4R) <input checked="" type="checkbox"/> Resurfacing, restoration, and Rehabilitation (3R) <input type="checkbox"/> Preventative Maintenance (PM)

Section 5. Safety

Please list the number and severity of crashes within the proposed project limits over the last 5 yrs. (2013-2017) (see <u>Michigan Crash Facts</u> for crash data)			
Total Crashes	3	Pedestrian & Bicycle Crashes	0
Fatalities	0	Serious Injuries	0
Using the attached Crash Reduction Factors sheet, please check each safety counter measure that will be included in the project			
Describe any other safety improvements this project will provide			

Section 6. Non-motorized Improvements

Please explain any pedestrian and/or bicycle improvements are included	
Does this project connect to an existing pedestrian/bicycle facility or one that is planned to be completed from 2020-2023?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please provide a map of the connecting facilities

Section 7. Regional Connectivity

What is the most current daily traffic count for the limits of this project?	<input checked="" type="checkbox"/> Less than 2000 <input type="checkbox"/> 2000-5000 <input type="checkbox"/> 5000-10,000 <input type="checkbox"/> Above 10,000 Year of count: 2010 Source: CCRC
National Functional Classification (NFC) for this roadway (Berrien County NFC Map, Cass County NFC Map)	Minor Collector

Section 8. Strategic Planning & Investment

Is the project identified in a Asset Management Plan, or Capital Improvement Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, will it be bid as a single project?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	None
Is there a completed a utilities assessment that included televising the sewers in the project area?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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 <u>2017-2020 NATS TIP</u> cycle or <u>RTF</u> cycle?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No What segment was the PREVIOUS project done on? Cassopolis Road to Calvin Center Road

Section 9. Existing and Proposed Roadway Design

	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		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Shoulder Surface	<input type="checkbox"/> Paved <input checked="" type="checkbox"/> Unpaved		Width (ft.) 3	<input type="checkbox"/> Paved <input checked="" type="checkbox"/> Unpaved		Width (ft.) 3
Sidewalk/ path information	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)
On road bicycle facilities	<input type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input checked="" type="checkbox"/> None			<input type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input checked="" type="checkbox"/> None		
Utilities, Sewer and Water	<input type="checkbox"/> Utilities Upgrades Needed <input type="checkbox"/> Sewer and water work needed			<input type="checkbox"/> Replaced Utilities <input type="checkbox"/> Relocating Utilities <input type="checkbox"/> 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						
Does this project enhance connectivity of pedestrian or bicyclists to fixed route or Dial-A-Ride transit?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, how?			

Section 10. Estimated Project Schedule

Activity	Estimated Date
Resolution of Support for <input type="checkbox"/> Local Match Submitted to SWMPC	November 2020
Project Application Submitted to MOT	November 2020
Grade Inspection Package Submitted to MDOT	November 2020
Grade Inspection Meeting Scheduled	December 2020
Final Plan and Estimate to MDOT	January 2021
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	February 2021
Project Letting	April 2021
Construction Start <input type="checkbox"/>	May 2021
Project Completion	September 2021

*Enter NA if these items will not be required.

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

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

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

NATS Road Project Prioritization System

Project Name: Barron Lake Rd,

Agency: Cass CRC

Proposed Year: 2022

Total Points: 23

Criteria	Points	
System Preservation	21 points max	
a. Most recent PASER rating		
3-4	11	11
5-6	8	
1-2	5	
b. Extension of Remaining Service Life (RSL) based on MDOT Geometric Guidelines		
Extends RSL by 15 years or more (4R project)	10	
Extends RSL by 10-14 years (3R Project)	6	
Extends RSL by 5-9 years (Preventative Maintenance)	4	4
Extends RSL by 2-4 years (Preventative Maintenance)	2	
Safety	10 points max	
a. Expected Crash Reduction - Based on MDOT approved Crash Reduction Factors		
50% or greater	7	
40%-49.9%	6	
30% - 39.9%	5	
20% - 29.9%	4	
10% - 19.9%	2	
Less than 10%	0	0
b. Addressing High Crash Locations.		
Number of crashes is 20% higher than MPO median (4 or more)	3	3
Number of crashes are within 20% of MPO median (2-3)	1	
Number of crashes is lower than 20% of the MPO median (0-1)	0	
Non-motorized Transportation	4 points max	
a. Project provides pedestrian or bicycle facilities	2	
b. Pedestrian and bicycle elements of the project connect to existing bicycle and pedestrian facilities or those that can reasonably be expected to be completed between 2019-2023.	2	

Criteria	Points	
Regional Connectivity	5 points max	
a. Traffic Count based on the average daily traffic (ADT)		
ADT is 10,000 or more	5	
ADT is 5,000 – 9,999	4	
ADT is 2,000 – 4,999	③	3
Strategic Investment/ Project Planning	10 points max	
a. Project is identified in an Asset Management or Capital Improvement Plan	3	
b. Project is identified as a priority in another planning document such as a master plan or parks and recreation plan	1	
c. Project crosses jurisdictional boundaries (i.e. city to township) and is arranged in such a way to be bid as a single project.	1	
d. Project continues resurfacing, reconstruction or Preventative Maintenance on a segment of roadway adjacent to a resurfacing, reconstruction or Preventative project done during the 2017-2020 TIP cycle or through Rural Task Force funding.	2	
e. Additional Local Match		
Agency will provide 40% or more local match	3	
Agency will provide 30% to 39.9% local match	②	2
Note: An 18.15% local match is the minimum required		
Project Readiness (no points)	Yes	
Coordination with Sewer (no points)	Yes	

Total Score (out of 50)	23
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2.5
2.3

**Niles-Buchanan-Cass Area Transportation Study
2020-2023 Transportation Improvement Program (TIP)
Federal Surface Transportation Block Grant Funds
Project Application**

Click "Enable Editing" to begin filling out this form. You may save this form at any time.

Section 1. Applicant Information

Agency Name	Cass County Road Commission		
Contact Name	Joe Bellina	Title	Chief Engineer
Phone Number	269-445-8611	Email	jbellina@casscoroad.com

Section 2. Project Information

Project Name/Road Name	Barron Lake Road		
Project Limits (e.g. Oak St. to Regent St.)	M 60 to Cook Street		
Project Length (nearest hundredth of a mile)	2.63	Proposed Year of Funding	2022
Primary Work Type	<input type="checkbox"/> Reconstruct <input type="checkbox"/> Restore & Rehabilitate <input type="checkbox"/> Roadside Facility <input checked="" type="checkbox"/> Resurface <input type="checkbox"/> Traffic Operations/Safety <input type="checkbox"/> Other		
Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.)	Overlay of travel lanes and paved shoulder, signage, and pavement markings.		
Was this project awarded funding for the 2017-2020 TIP, but was either canceled or failed to be obligated	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:		

Section 3. Project Funding

Federal Funding Requested	\$ 279,250
Local Match (18.15% minimum)	\$ 120,000
Total	\$ 399,250
Local Match Percentage (local match/total cost)	30.06%
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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No Maximum Dollar Amount you can AC? \$

Section 4. System Preservation

2017 <u>PASER</u> rating	3
Current state of drainage	<input checked="" type="checkbox"/> Adequate <input type="checkbox"/> Minor and tolerable drainage problems <input type="checkbox"/> Occasional drainage problems with some maintenance required <input type="checkbox"/> Inadequate drainage, frequent flooding, excessive maintenance required
Expected increase in Remaining Service life (RSL)	<input type="checkbox"/> 0-3 years <input type="checkbox"/> 4-6 <input checked="" type="checkbox"/> 7-9 <input type="checkbox"/> 10-14 <input type="checkbox"/> 15-20 Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>
What MDOT guidelines does the project conform to?	<input type="checkbox"/> Reconstruction (4R) <input type="checkbox"/> Resurfacing, restoration, and Rehabilitation (3R) <input checked="" type="checkbox"/> Preventative Maintenance (PM)

Section 5. Safety

Please list the number and severity of crashes within the proposed project limits over the last 5 yrs. (2013-2017) (see Michigan Crash Facts for crash data)

Total Crashes	63 w/animal crashes	Pedestrian & Bicycle Crashes	0
Fatalities	1	Serious Injuries	0

Using the attached Crash Reduction Factors sheet, please check each safety counter measure that will be included in the project

Describe any other safety improvements this project will provide	
--	--

Section 6. Non-motorized Improvements

Please explain any pedestrian and/or bicycle improvements are included	
Does this project connect to an existing pedestrian/bicycle facility or one that is planned to be completed from 2020-2023?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please provide a map of the connecting facilities

Section 7. Regional Connectivity

What is the most current daily traffic count for the limits of this project?	<input type="checkbox"/> Less than 2000 <input checked="" type="checkbox"/> 2000-5000 <input type="checkbox"/> 5000-10,000 <input type="checkbox"/> Above 10,000 Year of count: 2016 Source: CCRC
National Functional Classification (NFC) for this roadway (Berrien County NFC Map, Cass County NFC Map)	Minor Arterial

Section 8. Strategic Planning & Investment

Is the project identified in a Asset Management Plan, or Capital Improvement Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, will it be bid as a single project?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	None
Is there a completed a utilities assessment that included televising the sewers in the project area?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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 <u>2017-2020 NATS TIP</u> cycle or <u>RTF</u> cycle?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No What segment was the PREVIOUS project done on?

Section 9. Existing and Proposed Roadway Design

	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		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Shoulder Surface	<input checked="" type="checkbox"/> Paved <input type="checkbox"/> Unpaved		Width (ft.) 3	<input checked="" type="checkbox"/> Paved <input type="checkbox"/> Unpaved		Width (ft.) 3
Sidewalk/ path information	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)
On road bicycle facilities	<input type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input checked="" type="checkbox"/> None			<input type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input checked="" type="checkbox"/> None		
Utilities, Sewer and Water	<input type="checkbox"/> Utilities Upgrades Needed <input type="checkbox"/> Sewer and water work needed			<input type="checkbox"/> Replaced Utilities <input type="checkbox"/> Relocating Utilities <input type="checkbox"/> 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						
Does this project enhance connectivity of pedestrian or bicyclists to fixed route or Dial-A-Ride transit?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, how?			

Section 10. Estimated Project Schedule

Activity	Estimated Date
Resolution of Support for <input type="checkbox"/> Local Match Submitted to SWMPC	November 2021
Project Application Submitted to MOT	November 2021
Grade Inspection Package Submitted to MDOT	November 2021
Grade Inspection Meeting Scheduled	December 2021
Final Plan and Estimate to MDOT	January 2022
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	February 2022
Project Letting	April 2022
Construction Start <input type="checkbox"/>	May 2022
Project Completion	September 2022

*Enter NA if these items will not be required.

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

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

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

2.4

NATS Road Project Prioritization System

Project Name: May St - Rd

Agency: Cass County RC

Proposed Year: 2023

Total Points: 16

Criteria	Points	
System Preservation	21 points max	
a. Most recent PASER rating		
3-4	<u>11</u>	11
5-6	8	
1-2	5	
b. Extension of Remaining Service Life (RSL) based on MDOT Geometric Guidelines		
Extends RSL by 15 years or more (4R project)	10	
Extends RSL by 10-14 years (3R Project)	6	
Extends RSL by 5-9 years (Preventative Maintenance)	<u>4</u>	4
Extends RSL by 2-4 years (Preventative Maintenance)	2	
Safety	10 points max	
a. Expected Crash Reduction - Based on MDOT approved Crash Reduction Factors		
50% or greater	7	
40%-49.9%	6	
30% - 39.9%	5	
20% - 29.9%	4	
10% - 19.9%	2	
Less than 10%	0	
b. Addressing High Crash Locations.		
Number of crashes is 20% higher than MPO median (4 or more)	3	
Number of crashes are within 20% of MPO median (2-3)	<u>1</u>	1
Number of crashes is lower than 20% of the MPO median (0-1)	0	
Non-motorized Transportation	4 points max	
a. Project provides pedestrian or bicycle facilities	2	
b. Pedestrian and bicycle elements of the project connect to existing bicycle and pedestrian facilities or those that can reasonably be expected to be completed between 2019-2023.	2	

Criteria	Points	
Regional Connectivity	5 points max	
a. Traffic Count based on the average daily traffic (ADT)		
ADT is 10,000 or more	5	
ADT is 5,000 – 9,999	4	
ADT is 2,000 – 4,999	3	
Strategic Investment/ Project Planning	10 points max	
a. Project is identified in an Asset Management or Capital Improvement Plan	3	
b. Project is identified as a priority in another planning document such as a master plan or parks and recreation plan	1	
c. Project crosses jurisdictional boundaries (i.e. city to township) and is arranged in such a way to be bid as a single project.	1	
d. Project continues resurfacing, reconstruction or Preventative Maintenance on a segment of roadway adjacent to a resurfacing, reconstruction or Preventative project done during the 2017-2020 TIP cycle or through Rural Task Force funding.	2	
e. Additional Local Match		
Agency will provide 40% or more local match	3	
Agency will provide 30% to 39.9% local match	2	
Note: An 18.15% local match is the minimum required		
Project Readiness (no points)	Yes	
Coordination with Sewer (no points)	Yes	

Total Score (out of 50)	16
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Niles-Buchanan-Cass Area Transportation Study
2020-2023 Transportation Improvement Program (TIP)
Federal Surface Transportation Block Grant Funds
Project Application

Click "Enable Editing" to begin filling out this form. You may save this form at any time.

Section 1. Applicant Information

Agency Name	Cass County Road Commission		
Contact Name	Joe Bellina	Title	Chief Engineer
Phone Number	269-445-8611	Email	jbellina@casscoroad.com

Section 2. Project Information

Project Name/Road Name	May Street		
Project Limits (e.g. Oak St. to Regent St.)	Conrad Road to Brizandine Road		
Project Length (nearest hundredth of a mile)	.52	Proposed Year of Funding	2023
Primary Work Type	<input type="checkbox"/> Reconstruct <input type="checkbox"/> Restore & Rehabilitate <input type="checkbox"/> Roadside Facility <input checked="" type="checkbox"/> Resurface <input type="checkbox"/> Traffic Operations/Safety <input type="checkbox"/> Other		
Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.)	Mill and replace surface to travel lanes and paved shoulders and pavement markings.		
Was this project awarded funding for the 2017-2020 TIP, but was either canceled or failed to be obligated	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:		

Section 3. Project Funding

Federal Funding Requested	\$ 82,668.50
Local Match (18.15% minimum)	\$ 18,331.50
Total	\$ 101,000
Local Match Percentage (local match/total cost)	18.15%
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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No Maximum Dollar Amount you can AC? \$

Section 4. System Preservation

2017 <u>PASER</u> rating	3
Current state of drainage	<input checked="" type="checkbox"/> Adequate <input type="checkbox"/> Minor and tolerable drainage problems <input type="checkbox"/> Occasional drainage problems with some maintenance required <input type="checkbox"/> Inadequate drainage, frequent flooding, excessive maintenance required
Expected increase in Remaining Service life (RSL)	<input type="checkbox"/> 0-3 years <input type="checkbox"/> 4-6 <input checked="" type="checkbox"/> 7-9 <input type="checkbox"/> 10-14 <input type="checkbox"/> 15-20 Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>
What MDOT guidelines does the project conform to?	<input type="checkbox"/> Reconstruction (4R) <input type="checkbox"/> Resurfacing, restoration, and Rehabilitation (3R) <input checked="" type="checkbox"/> Preventative Maintenance (PM)

Section 5. Safety

Please list the number and severity of crashes within the proposed project limits over the last 5 yrs. (2013-2017) (see <u>Michigan Crash Facts</u> for crash data)			
Total Crashes	6	Pedestrian & Bicycle Crashes	0
Fatalities	0	Serious Injuries	0
Using the attached Crash Reduction Factors sheet, please check each safety counter measure that will be included in the project			
Describe any other safety improvements this project will provide			

Section 6. Non-motorized Improvements

Please explain any pedestrian and/or bicycle improvements are included	
Does this project connect to an existing pedestrian/bicycle facility or one that is planned to be completed from 2020-2023?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please provide a map of the connecting facilities

Section 7. Regional Connectivity

What is the most current daily traffic count for the limits of this project?	<input checked="" type="checkbox"/> Less than 2000 <input type="checkbox"/> 2000-5000 <input type="checkbox"/> 5000-10,000 <input type="checkbox"/> Above 10,000 Year of count: 2018 Source: MACOG
National Functional Classification (NFC) for this roadway (Berrien County NFC Map, Cass County NFC Map)	Major Collector

Section 8. Strategic Planning & Investment

Is the project identified in a Asset Management Plan, or Capital Improvement Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, will it be bid as a single project?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	None
Is there a completed a utilities assessment that included televising the sewers in the project area?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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 <u>2017-2020 NATS TIP</u> cycle or <u>RTF</u> cycle?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No What segment was the PREVIOUS project done on?

Section 9. Existing and Proposed Roadway Design

	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		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Shoulder Surface	<input checked="" type="checkbox"/> Paved <input type="checkbox"/> Unpaved		Width (ft.) 3	<input checked="" type="checkbox"/> Paved <input type="checkbox"/> Unpaved		Width (ft.) 3
Sidewalk/ path information	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)
On road bicycle facilities	<input type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input checked="" type="checkbox"/> None			<input type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input checked="" type="checkbox"/> None		
Utilities, Sewer and Water	<input type="checkbox"/> Utilities Upgrades Needed <input type="checkbox"/> Sewer and water work needed			<input type="checkbox"/> Replaced Utilities <input type="checkbox"/> Relocating Utilities <input type="checkbox"/> 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						
Does this project enhance connectivity of pedestrian or bicyclists to fixed route or Dial-A-Ride transit?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, how?			

Section 10. Estimated Project Schedule

Activity	Estimated Date
Resolution of Support for <input type="checkbox"/> Local Match Submitted to SWMPC	November 2022
Project Application Submitted to MOT	November 2022
Grade Inspection Package Submitted to MDOT	November 2022
Grade Inspection Meeting Scheduled	December 2022
Final Plan and Estimate to MDOT	January 2023
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	February 2023
Project Letting	April 2023
Construction Start <input type="checkbox"/>	May 2023
Project Completion	September 2023

*Enter NA if these items will not be required.

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

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

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

NATS Road Project Prioritization System

Project Name: Conrad Rd.

Agency: Cass CRC

Proposed Year: 2023

Total Points: 21

Criteria	Points	
System Preservation	21 points max	
a. Most recent PASER rating		
3-4	11	11
5-6	8	
1-2	5	
b. Extension of Remaining Service Life (RSL) based on MDOT Geometric Guidelines		
Extends RSL by 15 years or more (4R project)	10	
Extends RSL by 10-14 years (3R Project)	6	
Extends RSL by 5-9 years (Preventative Maintenance)	4	4
Extends RSL by 2-4 years (Preventative Maintenance)	2	
Safety	10 points max	
a. Expected Crash Reduction - Based on MDOT approved Crash Reduction Factors		
50% or greater	7	
40%-49.9%	6	
30% - 39.9%	5	
20% - 29.9%	4	
10% - 19.9%	2	
Less than 10%	0	0
b. Addressing High Crash Locations.		
Number of crashes is 20% higher than MPO median (4 or more)	3	3
Number of crashes are within 20% of MPO median (2-3)	1	
Number of crashes is lower than 20% of the MPO median (0-1)	0	
Non-motorized Transportation	4 points max	
a. Project provides pedestrian or bicycle facilities	2	
b. Pedestrian and bicycle elements of the project connect to existing bicycle and pedestrian facilities or those that can reasonably be expected to be completed between 2019-2023.	2	

Criteria	Points	
Regional Connectivity	5 points max	
a. Traffic Count based on the average daily traffic (ADT)		
ADT is 10,000 or more	5	
ADT is 5,000 – 9,999	4	
ADT is 2,000 – 4,999	3	3
Strategic Investment/ Project Planning	10 points max	
a. Project is identified in an Asset Management or Capital Improvement Plan	3	
b. Project is identified as a priority in another planning document such as a master plan or parks and recreation plan	1	
c. Project crosses jurisdictional boundaries (i.e. city to township) and is arranged in such a way to be bid as a single project.	1	
d. Project continues resurfacing, reconstruction or Preventative Maintenance on a segment of roadway adjacent to a resurfacing, reconstruction or Preventative project done during the 2017-2020 TIP cycle or through Rural Task Force funding.	2	
e. Additional Local Match		
Agency will provide 40% or more local match	3	
Agency will provide 30% to 39.9% local match	2	
Note: An 18.15% local match is the minimum required		
Project Readiness (no points)	Yes	✓
Coordination with Sewer (no points)	Yes	

Total Score (out of 50)	21
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24
2.5

**Niles-Buchanan-Cass Area Transportation Study
2020-2023 Transportation Improvement Program (TIP)
Federal Surface Transportation Block Grant Funds
Project Application**

Click "Enable Editing" to begin filling out this form. You may save this form at any time.

Section 1. Applicant Information

Agency Name	Cass County Road Commission		
Contact Name	Joe Bellina	Title	Chief Engineer
Phone Number	269-445-8611	Email	jbellina@casscoroad.com

Section 2. Project Information

Project Name/Road Name	Conrad Road		
Project Limits (e.g. Oak St. to Regent St.)	May Street to US12		
Project Length (nearest hundredth of a mile)	.71	Proposed Year of Funding	2023
Primary Work Type	<input type="checkbox"/> Reconstruct <input type="checkbox"/> Restore & Rehabilitate <input type="checkbox"/> Roadside Facility <input checked="" type="checkbox"/> Resurface <input type="checkbox"/> Traffic Operations/Safety <input type="checkbox"/> Other		
Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.)	Mill and replace surface to travel lanes and paved shoulders and pavement markings.		
Was this project awarded funding for the 2017-2020 TIP, but was either canceled or failed to be obligated	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please explain:		

Section 3. Project Funding

Federal Funding Requested	\$ 112,461.90
Local Match (18.15% minimum)	\$ 24,938.10
Total	\$ 137,400
Local Match Percentage (local match/total cost)	18.15%
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)?	<input type="checkbox"/> Yes <input type="checkbox"/> No Maximum Dollar Amount you can AC? \$

Section 4. System Preservation

2017 <u>PASER</u> rating	4
Current state of drainage	<input checked="" type="checkbox"/> Adequate <input type="checkbox"/> Minor and tolerable drainage problems <input type="checkbox"/> Occasional drainage problems with some maintenance required <input type="checkbox"/> Inadequate drainage, frequent flooding, excessive maintenance required
Expected increase in Remaining Service life (RSL)	<input type="checkbox"/> 0-3 years <input type="checkbox"/> 4-6 <input checked="" type="checkbox"/> 7-9 <input type="checkbox"/> 10-14 <input type="checkbox"/> 15-20 Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>
What MDOT guidelines does the project conform to?	<input type="checkbox"/> Reconstruction (4R) <input type="checkbox"/> Resurfacing, restoration, and Rehabilitation (3R) <input checked="" type="checkbox"/> Preventative Maintenance (PM)

Section 5. Safety

Please list the number and severity of crashes within the proposed project limits over the last 5 yrs. (2013-2017) (see <u>Michigan Crash Facts</u> for crash data)			
Total Crashes	12	Pedestrian & Bicycle Crashes	0
Fatalities	0	Serious Injuries	0
Using the attached Crash Reduction Factors sheet, please check each safety counter measure that will be included in the project			
Describe any other safety improvements this project will provide			

Section 6. Non-motorized Improvements

Please explain any pedestrian and/or bicycle improvements are included	
Does this project connect to an existing pedestrian/bicycle facility or one that is planned to be completed from 2020-2023?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please provide a map of the connecting facilities

Section 7. Regional Connectivity

What is the most current daily traffic count for the limits of this project?	<input type="checkbox"/> Less than 2000 <input checked="" type="checkbox"/> 2000-5000 <input type="checkbox"/> 5000-10,000 <input type="checkbox"/> Above 10,000 Year of count: 2017 Source: CCRC
National Functional Classification (NFC) for this roadway (Berrien County NFC Map, Cass County NFC Map)	Major Collector

Section 8. Strategic Planning & Investment

Is the project identified in a Asset Management Plan, or Capital Improvement Plan	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please cite the plan and page number:
Does the project cross jurisdictional boundaries?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, will it be bid as a single project?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
Will this project coordinate with other infrastructure projects (i.e. utility, water, sewer, etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	None
Is there a completed a utilities assessment that included televising the sewers in the project area?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Will this project require environmental mitigation, purchase of Right of Way (ROW), or railroad permits?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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 <u>2017-2020 NATS TIP</u> cycle or <u>RTF</u> cycle?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No What segment was the PREVIOUS project done on?

Section 9. Existing and Proposed Roadway Design

	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		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Shoulder Surface	<input checked="" type="checkbox"/> Paved <input type="checkbox"/> Unpaved		Width (ft.) 3	<input checked="" type="checkbox"/> Paved <input type="checkbox"/> Unpaved		Width (ft.) 3
Sidewalk/ path information	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)	Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> None		Width (ft.)
On road bicycle facilities	<input type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input checked="" type="checkbox"/> None			<input type="checkbox"/> Bike Lane <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Sharrows <input type="checkbox"/> Wide Shoulders <input checked="" type="checkbox"/> None		
Utilities, Sewer and Water	<input type="checkbox"/> Utilities Upgrades Needed <input type="checkbox"/> Sewer and water work needed			<input type="checkbox"/> Replaced Utilities <input type="checkbox"/> Relocating Utilities <input type="checkbox"/> 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						
Does this project enhance connectivity of pedestrian or bicyclists to fixed route or Dial-A-Ride transit?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, how?			

Section 10. Estimated Project Schedule

Activity	Estimated Date
Resolution of Support for <input type="checkbox"/> Local Match Submitted to SWMPC	November 2022
Project Application Submitted to MOT	November 2022
Grade Inspection Package Submitted to MDOT	November 2022
Grade Inspection Meeting Scheduled	December 2022
Final Plan and Estimate to MDOT	January 2023
Right of Way (ROW) certified*	NA
Rail Road Permits*	NA
Environmental Mitigation*	NA
Project Obligated	February 2023
Project Letting	April 2023
Construction Start <input type="checkbox"/>	May 2023
Project Completion	September 2023

*Enter NA if these items will not be required.

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

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

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

