

4.1

NATS Road Project Prioritization System

Project Name: River St

Agency: City of Buchanan

Proposed Year: 2021

Total Points: 19

Criteria	Points	
System Preservation	21 points max	
a. Most recent PASER rating		
3-4	11	
5-6	8	
1-2	5	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	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	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)	19
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4.1

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	City of Buchanan		
Contact Name	Bill Marx	Title	City Manager
Phone Number	269-695-3844 Ext. 10	Email	wmarx@cityofbuchanan.com

Section 2. Project Information

Project Name/Road Name	River Street Improvements		
Project Limits (e.g. Oak St. to Regent St.)	From Wastewater Treatment Plant driveway to the west side of the bridge over the Saint Joseph River.		
Project Length (nearest hundredth of a mile)	0.3	Proposed Year of Funding	2021
Primary Work Type	☐ Reconstruct ☒ Restore & Rehabilitate ☐ Roadside Facility ☐ Resurface ☐ Traffic Operations/Safety ☐ Other		
Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.)	Cold milling 3 inches, as needed HMA surface remove and subgrade undercutting, drainage structure adjustments, drainage cover replacements, waterborne pavement markings, cold plastic overlays, and restoration.		
Was this project awarded funding for the 2017-2020 TIP, but was either canceled or failed to be obligated	☐ Yes ☒ No If yes, please explain:		

Section 3. Project Funding

Federal Funding Requested	\$ 204,711
Local Match (18.15% minimum)	\$ 51,178
Total	\$ 255,889
Local Match Percentage (local 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	☐ Yes ☒ No Maximum Dollar Amount you can AC? \$

amount your agency is willing to Advance Construct (AC)?	
Section 4. System Preservation	
2017 <u>PASER</u> rating	2-Poor
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 Remaining Service life (RSL)	☐ 0-3 years ☐ 4-6 ☒ 7-9 ☐ 10-14 ☐ 15-20 Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>
What MDOT guidelines does the project conform to?	☐ Reconstruction (4R) ☒ Resurfacing, restoration, and Rehabilitation (3R) ☐ 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	7	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?	☐ Yes ☒ 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?	☐ Less than 2000 ☒ 2000-5000 ☐ 5000-10,000 ☐ Above 10,000 Year of count: 2012 Source: TAMCMap

National Functional Classification (NFC) for this roadway (Berrien County NFC Map, Cass County NFC Map)	5-Major Collector
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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 <u>2017-2020 NATS TIP</u> cycle or <u>RTF</u> cycle?	☐ Yes ☒ 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
	4	No	☐ Yes ☒ No	4	No	☐ Yes ☒ No
Shoulder Surface	☐ Paved ☐ Unpaved		Width (ft.) Varies	☐ Paved ☐ Unpaved		Width (ft.) Varies
Sidewalk/ path information	Placement ☐ One Side ☐ Both Sides ☐ Intermittent ☒ None		Width (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						
Does this project enhance connectivity of pedestrian or bicyclists to fixed route or Dial-A-Ride transit?			☐ Yes ☒ No If yes, how?			

Section 10. Estimated Project Schedule

Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	01/28/2019
Project Application Submitted to MOT	07/02/2020
Grade Inspection Package Submitted to MDOT	07/16/2020
Grade Inspection Meeting Scheduled	08/14/2020
Final Plan and Estimate to MDOT	09/28/2020
Right of Way (ROW) certified*	09/28/2020
Rail Road Permits*	N/A
Environmental Mitigation*	N/A
Project Obligated	10/15/2020
Project Letting	12/07/2020
Construction Start ☐	04/08/2021
Project Completion	07/02/2021

*Enter NA if these items will not be required.

Proposed Improvement			% Reduction	Associated Crash Types		
SEGMENT CRASH REDUCTION FACTORS						
Geometric Safety Enhancements						
☐	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*		
☐	Right-Turn Lane - Construct		65%	Rear-End Right-Turn		
			30%	Angle		
			15%	Rear-End		
			10%	Other*		
☐	Horizontal Curve Flattening		30%	Lane Departure***		
			5%	Lane Departure***		
			10%	Lane Departure***		
			15%	Lane Departure***		
			20%	Lane Departure***		
			25%	Lane Departure***		
			30%	Lane Departure***		
☐	Shoulders - Widen to Standard Width (add 7' each side)		35%	Lane Departure***		
			20%	All Applicable Crash Types +++		
General Segment Enhancements						
☐	Access Management - Improve		15%	Drive-way Related Applicable Crashes		
			44%	K and A injury Applicable Crashes		
			46%	Single Vehicle Run off Road Left Crashes		
			43%	Sideswipe Same Crashes		
☐	Centerline Rumble Strips - Install		55%	Sideswipe Opposite Crashes		
			35%	Wet Crashes		
			20%	All Other Applicable Crashes		
			5%	All Applicable Crashes		
☐	Recessed Durable Pavement Markings		50%	Pedestrian Crashes (Review NCHRP Report 841)		
			50%	Suburban - All Applicable Crashes		
			20%	Run-Off the Road Right Crashes		
			20%	Lane Departure***		
☐	Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install					
			13%	All non-intersection crashes (CMF Clearing House ID 8658)		

Roadside Enhancements			
☐	Bicycle Lanes - Install per standards	50%	Bicycle Crashes
☐	Shared Use Path - <i>Install</i>	33%	Bicycle and Pedestrian Related Crashes
☐	Fixed Objects From Clearzone (Trees, Culverts, Etc.) - <i>Removal</i>	75%	Fixed-Object Applicable Crashes
☐	Guardrail - <i>Install</i>	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes
☐	Sidewalk for Pedestrians - <i>Construct</i>	85%	Pedestrian Crashes
☐	Slope Flattening	15%	Fixed-Object, Overtake Applicable Crashes
☐	Living Snow Fence	20%	Crashes due to wintry surface conditions
☐	Lighting - <i>install on segment</i>	20%	Dark Unlighted Crashes
INTERSECTION CRASH REDUCTION FACTORS			
Pedestrian / Bicycle Enhancements			
☐	Bump Out / Curb Extension - <i>Remove Parking / Install</i>	30%	All Crashes
☐	Bicycle Lanes - Install per standards	25%	Bicycle Crashes
☐	Sidewalk for Pedestrians - <i>Construct</i>	85%	Pedestrian Crashes
☐	Intersection Lighting - <i>install</i>	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 - <i>Install new Pedestrian signal</i>	30%	Pedestrian Crashes
☐	Ped. Countdown Signals - <i>Upgrade from existing Pedestrian signal</i>	25%	Pedestrian Crashes
Signal Timing / Hardware Enhancements			
☐	Multiple Low-Cost Improvements	3%	Rear-End
		12%	Right-Angle
		3%	Nighttime
☐	Install ReflectORIZED Backplates	15%	All Applicable Crashes
☐	Add All-Red Clearance Interval - <i>Add per ITE</i>	20%	Head-On Left-Turn, Angle
☐	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
☐	Box Span Signal - <i>Upgrade from Diagonal Span</i>	10%	All Applicable Crashes+
☐	Protected Left-Turn Signal Phase - <i>Add</i>	30%	Left-Turn
☐	Signal Head Size - <i>Increase to 12 "</i>	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 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
☐	Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.)	
☐	Offset Left-Turn Lane - Construct	
☐	Offset Right-Turn Lane - Construct	
☐	Right-Turn Lane - Construct	
☐	Roundabout	
☐	Lighting	
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 (lollipop)	15% All Applicable Crashes

4.2

NATS Road Project Prioritization System

Project Name: *Front St.*Agency: *City of Buchanan*Proposed Year: *2022*Total Points: *38*

Criteria	Points	
System Preservation	21 points max	
a. Most recent PASER rating		
3-4	<i>11</i>	<i>11</i>
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)	<i>10</i>	<i>10</i>
Extends RSL by 10-14 years (3R Project)	6	
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%	<i>5</i>	<i>5</i>
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)	<i>3</i>	<i>3</i>
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	<i>2</i>	<i>2</i>
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.	<i>2</i>	<i>2</i>

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	9
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)	38
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4.2

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	City of Buchanan		
Contact Name	Bill Marx	Title	City Manager
Phone Number	269-695-3844 Ext. 10	Email	wmarx@cityofbuchanan.com

Section 2. Project Information			
Project Name/Road Name	Front Street Reconstruction		
Project Limits (e.g. Oak St. to Regent St.)	Red Bud Trail to Oak Street		
Project Length (nearest hundredth of a mile)	0.15	Proposed Year of Funding	2022
Primary Work Type	☒ Reconstruct ☐ Restore & Rehabilitate ☐ Roadside Facility ☐ Resurface ☐ Traffic Operations/Safety ☐ Other		
Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.)	Full reconstruction of the roadway to allow replacement of the currently undersized and/or failing sanitary sewer, storm sewer and watermain. This project would include curb and sidewalk upgrades to meet ADA standards, HMA pavement, remove and replace storm sewer, drainage structures, drainage structure covers, pavement markings, permanent signage and apputenances from Red Bud to Oak Street.		
Was this project awarded funding for the 2017-2020 TIP, but was either canceled or failed to be obligated	☐ Yes ☒ No If yes, please explain:		

Section 3. Project Funding	
Federal Funding Requested	\$ 599,251
Local Match (18.15% minimum)	\$ 149,813
Total	\$ 749,064
Local Match Percentage (local 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	☐ Yes ☒ No Maximum Dollar Amount you can AC? \$

amount your agency is willing to Advance Construct (AC)?	
Section 4. System Preservation	
2017 <u>PASER</u> rating	3-Poor
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 Remaining Service life (RSL)	☐ 0-3 years ☐ 4-6 ☐ 7-9 ☐ 10-14 ☒ 15-20 Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>
What MDOT guidelines does the project conform to?	☒ Reconstruction (4R) ☐ Resurfacing, restoration, and Rehabilitation (3R) ☐ 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	26	Pedestrian & Bicycle Crashes	2
Fatalities	0	Serious Injuries	3
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	The signal at the intersection of Front Street and Oak Street will be upgraded including ADA compliant push button sensors, countdown signals for pedestrians, camera recognition for better operation, updating sidewalks and sidewalk ramps to meet ADA standards, crosswalk markings, stop bar markings, pavement markings and signage will all be upgraded.

Does this project connect to an existing pedestrian/bicycle facility or one that is planned to be completed from 2020-2023?	☐ Yes ☒ 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?	☐ Less than 2000 ☐ 2000-5000 ☒ 5000-10,000 ☐ Above 10,000 Year of count: 2008 Source: TAMCMap
National Functional Classification (NFC) for this roadway (Berrien County NFC Map, Cass County NFC Map)	5-Major Collector

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: Replace the outdated/failing watermain, sanitary sewer, storm sewer 2022
How many water main breaks have you had at this location in the past five years?	1
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 <u>2017-2020 NATS TIP</u> cycle or <u>RTF</u> cycle?	☐ Yes ☒ No What segment was the PREVIOUS project done on? Connects to the 2013 Front Street Project and the 2015 Red Bud Trail Improvements Project.

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	No	☒ Yes ☐ No	2	No	☒ Yes ☐ No
Shoulder Surface	☐ Paved ☐ Unpaved		Width (ft.) Varies	☐ Paved ☐ Unpaved		Width (ft.) Varies
Sidewalk/ path information	Placement ☐ One Side ☒ Both Sides ☐ Intermittent ☐ None		Width (ft.) 10	Placement ☐ One Side ☒ Both Sides ☐ Intermittent ☐ None		Width (ft.) 10
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			The signal at the intersection of Front Street and Oak Street will be upgraded including ADA compliant push button sensors, countdown signals for pedestrians, camera recognition for better operation, updating sidewalks and sidewalk ramps to meet ADA standards, crosswalk markings, stop bar markings, pavement markings and signage will all be upgraded.			
Does this project enhance connectivity of pedestrian or bicyclists to fixed route or Dial-A-Ride transit?			☐ Yes ☒ No If yes, how?			

Section 10. Estimated Project Schedule

Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	01/28/2019
Project Application Submitted to MOT	07/02/2021
Grade Inspection Package Submitted to MDOT	07/16/2021
Grade Inspection Meeting Scheduled	08/16/2021
Final Plan and Estimate to MDOT	09/27/2021
Right of Way (ROW) certified*	09/27/2021
Rail Road Permits*	N/A
Environmental Mitigation*	N/A

Project Obligated	10/15/2021
Project Letting	12/06/2021
Construction Start ☐	04/07/2022
Project Completion	07/01/2022

*Enter NA if these items will not be required.

Proposed Improvement		% Reduction	Associated Crash Types	
SEGMENT CRASH REDUCTION FACTORS				
Geometric Safety Enhancements				
☐	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*	
☐	Right-Turn Lane - Construct	65%	Rear-End Right-Turn	
		30%	Angle	
		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 Segment Enhancements				
☐	Access Management - Improve	15%	Drive-way Related Applicable Crashes	
☐	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	
☐	High Friction Surface Treatment - Install	35%	Wet Crashes	
☐	Recessed Durable Pavement Markings	20%	All Other Applicable Crashes	
☐	Pedestrian Refuge - Install	5%	All Applicable Crashes	
☐	Road Diet (4-3 Lane Conversion) - Install	50%	Pedestrian Crashes (Review NCHRP Report 841)	
☐	Shoulder Rumble Strips	50%	Suburban - All Applicable Crashes	
☐	Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install	20%	Run-Off the Road Right Crashes	
☐	Safety Edge Improvement	20%	Lane Departure***	
☐		13%	All non-intersection crashes (CMF Clearing House ID 8658)	

Roadside Enhancements			
☐	Bicycle Lanes - Install per standards	50%	Bicycle Crashes
☐	Shared Use Path - <i>Install</i>	33%	Bicycle and Pedestrian Related Crashes
☐	Fixed Objects From Clearzone (Trees, Culverts, Etc.) - <i>Removal</i>	75%	Fixed-Object Applicable Crashes
☐	Guardrail - <i>Install</i>	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes
☐	Sidewalk for Pedestrians - <i>Construct</i>	85%	Pedestrian Crashes
☐	Slope Flattening	15%	Fixed-Object, Overturn Applicable Crashes
☐	Living Snow Fence	20%	Crashes due to wintry surface conditions
☐	Lighting - <i>install on segment</i>	20%	Dark Unlighted Crashes
INTERSECTION CRASH REDUCTION FACTORS			
Pedestrian / Bicycle Enhancements			
☐	Bump Out / Curb Extension - <i>Remove Parking / Install</i>	30%	All Crashes
☐	Bicycle Lanes - Install per standards	25%	Bicycle Crashes
☐	Sidewalk for Pedestrians - <i>Construct</i>	85%	Pedestrian Crashes
☐	Intersection Lighting - <i>install</i>	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 - <i>Install new Pedestrian signal</i>	30%	Pedestrian Crashes
☐	Ped. Countdown Signals - <i>Upgrade from existing Pedestrian signal</i>	25%	Pedestrian Crashes
Signal Timing / Hardware Enhancements			
☒	Multiple Low-Cost Improvements	3%	Rear-End
		12%	Right-Angle
		3%	Nighttime
☐	Install Reflectorized Backplates	15%	All Applicable Crashes
☒	Add All-Red Clearance Interval - <i>Add per ITE</i>	20%	Head-On Left-Turn, Angle
☒	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
☒	Box Span Signal - <i>Upgrade from Diagonal Span</i>	10%	All Applicable Crashes+
☐	Protected Left-Turn Signal Phase - <i>Add</i>	30%	Left-Turn
☐	Signal Head Size - <i>Increase to 12 "</i>	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 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
☐	Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.)	
☐	Offset Left-Turn Lane - Construct	
☐	Offset Right-Turn Lane - Construct	
☐	Right-Turn Lane - Construct	
☐	Roundabout	
☐	Lighting	
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 (lollipop)	15% All Applicable Crashes

4.3

NATS Road Project Prioritization System

Project Name: Red Bud Trail

Agency: City of Buchanan

Proposed Year: 2023

Total Points: 34

Criteria	Points	
System Preservation	21 points max	
a. Most recent PASER rating		
3-4	11	
5-6	8	
1-2	5	5
b. Extension of Remaining Service Life (RSL) based on MDOT Geometric Guidelines		
Extends RSL by 15 years or more (4R project)	10	10
Extends RSL by 10-14 years (3R Project)	6	
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	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	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	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	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	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)	34
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3/2/21
4.3

**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	City of Buchanan		
Contact Name	Bill Marx	Title	City Manager
Phone Number	269-695-3844 Ext. 10	Email	wmarx@cityofbuchanan.com

Section 2. Project Information

Project Name/Road Name	Red Bud Trail Reconstruction		
Project Limits (e.g. Oak St. to Regent St.)	Front Street to 4 th Street		
Project Length (nearest hundredth of a mile)	0.25	Proposed Year of Funding	2023
Primary Work Type	☒ Reconstruct ☐ Restore & Rehabilitate ☐ Roadside Facility ☐ Resurface ☐ Traffic Operations/Safety ☐ Other		
Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.)	Full reconstruction of the roadway to allow replacement of the currently undersized and/or failing sanitary sewer, storm sewer, and watermain. This project would include replacing the curb, sidewalk, upgrades to meet ADA standards, HMA pavement, remove and replace storm sewer, drainage structures, drainage structure covers, pavement markings, permanent signage and appurtenances from Front Street to 4 th Street.		
Was this project awarded funding for the 2017-2020 TIP, but was either canceled or failed to be obligated	☐ Yes ☒ No If yes, please explain:		

Section 3. Project Funding

Federal Funding Requested	\$ 815,949
Local Match (18.15% minimum)	\$ 203,987
Total	\$ 1,019,936
Local Match Percentage (local 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	☐ Yes ☒ No Maximum Dollar Amount you can AC? \$

amount your agency is willing to Advance Construct (AC)?	
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Section 4. System Preservation

2017 <u>PASER</u> rating	2-Poor
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 Remaining Service life (RSL)	☐ 0-3 years ☐ 4-6 ☐ 7-9 ☐ 10-14 ☒ 15-20 Use MDOT's <u>Guidelines for Geometrics on Local Projects</u>
What MDOT guidelines does the project conform to?	☒ Reconstruction (4R) ☐ Resurfacing, restoration, and Rehabilitation (3R) ☐ 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	13	Pedestrian & Bicycle Crashes	0
Fatalities	0	Serious Injuries	1

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	
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Section 6. Non-motorized Improvments

Please explain any pedestrian and/or bicycle improvements are included	Updating sidewalks and sidewalk ramps to meet ADA standards, crosswalk markings, stop bar markings, pavement markings and signage will all be upgraded.
Does this project connect to an existing pedestrian/bicycle facility or one that is planned to be completed from 2020-2023?	☐ Yes ☒ 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?	☐ Less than 2000 ☐ 2000-5000 ☒ 5000-10,000 ☐ Above 10,000 Year of count: 2009 Source: TAMCMap
National Functional Classification (NFC) for this roadway (Berrien County NFC Map, Cass County NFC Map)	5-Major Collector

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: Replace the outdated/failing watermain, sanitary sewer, storm sewer. 2023
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 <u>2017-2020 NATS TIP</u> cycle or <u>RTF</u> cycle?	☒ Yes ☐ No What segment was the PREVIOUS project done on? Connects the 2018 Red Bud/River/4 th Street Signal Project to 2015 Red Bud Trial Improvements Project.

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
	4	No	☐ Yes ☒ No	4	No	☐ Yes ☒ No
Shoulder Surface	☐ Paved ☐ Unpaved		Width (ft.) Varies	☐ Paved ☐ Unpaved		Width (ft.) Varies
Sidewalk/ path information	Placement ☐ One Side ☒ Both Sides ☐ Intermittent ☐ None		Width (ft.) 10	Placement ☐ One Side ☒ Both Sides ☐ Intermittent ☐ None		Width (ft.) 10
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						
Does this project enhance connectivity of pedestrian or bicyclists to fixed route or Dial-A-Ride transit?			☐ Yes ☒ No If yes, how?			

Section 10. Estimated Project Schedule

Activity	Estimated Date
Resolution of Support for ☐ Local Match Submitted to SWMPC	01/28/2019
Project Application Submitted to MOT	07/01/2022
Grade Inspection Package Submitted to MDOT	07/15/2022
Grade Inspection Meeting Scheduled	08/15/2022
Final Plan and Estimate to MDOT	09/27/2022
Right of Way (ROW) certified*	09/27/2022
Rail Road Permits*	N/A
Environmental Mitigation*	N/A
Project Obligated	10/14/2022
Project Letting	12/06/2022
Construction Start ☐	04/06/2023
Project Completion	07/03/2023

*Enter NA if these items will not be required.

Proposed Improvement		% Reduction	Associated Crash Types	
SEGMENT CRASH REDUCTION FACTORS				
Geometric Safety Enhancements				
☐	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*	
☐	Right-Turn Lane - Construct	65%	Rear-End Right-Turn	
		30%	Angle	
		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 Segment Enhancements				
☐	Access Management - Improve	15%	Drive-way Related Applicable Crashes	
☐	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	
☐	High Friction Surface Treatment - Install	35%	Wet Crashes	
☐	Recessed Durable Pavement Markings	20%	All Other Applicable Crashes	
☐	Pedestrian Refuge - Install	5%	All Applicable Crashes	
☐	Road Diet (4-3 Lane Conversion) - Install	50%	Pedestrian Crashes (Review NCHRP Report 841)	
☐	Shoulder Rumble Strips	50%	Suburban - All Applicable Crashes	
☐	Signing/Delineation on Horizontal Curves (Including Recessed Durable Pavement Markings) - Install	20%	Run-Off the Road Right Crashes	
☐	Safety Edge Improvement	20%	Lane Departure***	
☐		13%	All non-intersection crashes (CMF Clearing House ID 8658)	

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☐	Shared Use Path - <i>Install</i>	33%	Bicycle and Pedestrian Related Crashes
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☐	Guardrail - <i>Install</i>	55%	Lane Departure ***Fatalities and "A" Injury Applicable Crashes
☐	Sidewalk for Pedestrians - <i>Construct</i>	85%	Pedestrian Crashes
☐	Slope Flattening	15%	Fixed-Object, Overtum Applicable Crashes
☐	Living Snow Fence	20%	Crashes due to wintry surface conditions
☐	Lighting - <i>install on segment</i>	20%	Dark Unlighted Crashes
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Pedestrian / Bicycle Enhancements			
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☐	Intersection Lighting - <i>install</i>	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 - <i>Install new Pedestrian signal</i>	30%	Pedestrian Crashes
☐	Ped. Countdown Signals - <i>Upgrade from existing Pedestrian signal</i>	25%	Pedestrian Crashes
Signal Timing / Hardware Enhancements			
☐	Multiple Low-Cost Improvements	3%	Rear-End
		12%	Right-Angle
		3%	Nighttime
☐	Install ReflectORIZED Backplates	15%	All Applicable Crashes
☐	Add All-Red Clearance Interval - <i>Add per ITE</i>	20%	Head-On Left-Turn, Angle
☐	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
☐	Box Span Signal - <i>Upgrade from Diagonal Span</i>	10%	All Applicable Crashes+
☐	Protected Left-Turn Signal Phase - <i>Add</i>	30%	Left-Turn
☐	Signal Head Size - <i>Increase to 12 "</i>	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
		15%	Rear-End
☐	Intersection Improvements (Realignment, Sight-Distance Improvements, 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
☐	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
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☒	Pavement Markings - Improve/Upgrade	30%	Angle, Rear-End Crashes
☐	Reflective Sheeting on Sign Posts (lollipop)	15%	All Applicable Crashes

