

Rural Task Force Region Four Road Project Application

Section 1. Applicant Information

| | | | |
|--------------|---------------------|-------|------------------------|
| Agency Name | Village of Lawrence | | |
| Contact Name | Dan Faulkner | Title | Village Manager |
| Phone Number | 269-674-8161 | Email | manager@lawrencemi.org |

Section 2. Project Information

| | | | |
|---|---|--------------------------|------|
| Project Name/Road Name | Village Hall Park N Ride | | |
| Township/City/Village | Village of Lawrence | | |
| Project Limits (e.g. Napier Ave. to Britain Ave.) | East of N Paw Paw Street. | | |
| Project Length (nearest hundredth of a mile) | 3,320 SY | Proposed Year of Funding | 2020 |
| Primary Work Type | <input type="checkbox"/> Reconstruct <input type="checkbox"/> Restore & Rehabilitate <input checked="" type="checkbox"/> Roadside Facility <input type="checkbox"/> Resurface <input type="checkbox"/> Traffic Operations/Safety <input type="checkbox"/> Transit <input type="checkbox"/> Other | | |
| Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.) | Mill and resurface (1.5" HMA) existing parking lot south of Village Hall to establish a park and ride facility. Includes restriping, electric vehicle stations, and hitching post area. | | |

Section 3. Project Funding

| | |
|--|---|
| Federal STBG Requested | \$ 52,000 |
| State D | \$ |
| CTF | \$ |
| Local Funds | \$ 13,000 |
| Total | \$ 65,000 |
| Match Percentage (match/total cost) | 20% |
| Does your agency have the financial capacity to Advance Construct (AC) all or part of this project if necessary? If yes, what is the maximum dollar amount your agency is willing to Advance Construct (AC)? | <input type="checkbox"/> Yes <input type="checkbox"/> No Maximum Dollar Amount you can AC? \$ |

Section 4. System Preservation

| | |
|---|---|
| PASER rating | NA |
| 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 checked="" type="checkbox"/> 0-3 years <input type="checkbox"/> 4-6 <input type="checkbox"/> 7-9 <input type="checkbox"/> 10-14 <input type="checkbox"/> 15-20 Use MDOT's Guidelines for Geometrics on Local Projects |
| What 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 [Michigan Crash Facts](#) for crash data)

| | | | |
|---------------|----|------------------------------|----|
| Total Crashes | NA | Pedestrian & Bicycle Crashes | NA |
| Fatalities | NA | Serious Injuries | NA |

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 | NA |
|--|----|

Section 6. Non-motorized Improvements

| | |
|---|--|
| Please explain any pedestrian and/or bicycle improvements are included | NA |
| 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 type="checkbox"/> 2000-5000 <input type="checkbox"/> 5000-10,000 <input type="checkbox"/> Above 10,000 Year of count: Source: |
| National Functional Classification (NFC) for this roadway | NA |
| Is the project on an All Season Road | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Sure |

Section 8. Strategic Planning & Investment

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

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 |
| | | | <input type="checkbox"/> Yes <input type="checkbox"/> No | | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Shoulder Surface | <input type="checkbox"/> Paved <input type="checkbox"/> Unpaved | | Width (ft.) | <input type="checkbox"/> Paved <input type="checkbox"/> Unpaved | | Width (ft.) |
| Sidewalk/ path information | Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input type="checkbox"/> None | | Width (ft.) | Placement <input type="checkbox"/> One Side <input type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input 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 type="checkbox"/> None | | | <input 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 | | | Resurfacing of existing parking area. Includes restriping, electric vehicle stations, and hitching post area. | | | |

Section 10. Estimated Project Schedule

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

*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 - Install | 33% | Bicycle and Pedestrian Related Crashes |
| <input type="checkbox"/> | Fixed Objects From Clearzone (Trees, Culverts, Etc.) - Removal | 75% | Fixed-Object Applicable Crashes |
| <input type="checkbox"/> | Guardrail - Install | 55% | Lane Departure ***Fatalities and "A" Injury Applicable Crashes |
| <input type="checkbox"/> | Sidewalk for Pedestrians - Construct | 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 - install on segment | 20% | Dark Unlighted Crashes |

INTERSECTION CRASH REDUCTION FACTORS

| Pedestrian / Bicycle Enhancements | | | |
|--|---|-----|--|
| <input type="checkbox"/> | Bump Out / Curb Extension - Remove Parking / Install | 30% | All Crashes |
| <input type="checkbox"/> | Bicycle Lanes - Install per standards | 25% | Bicycle Crashes |
| <input type="checkbox"/> | Sidewalk for Pedestrians - Construct | 85% | Pedestrian Crashes |
| <input type="checkbox"/> | Intersection Lighting - install | 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 - Install new Pedestrian signal | 30% | Pedestrian Crashes |
| <input type="checkbox"/> | Ped. Countdown Signals - Upgrade from existing Pedestrian signal | 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 - Add per ITE | 20% | Head-On Left-Turn, Angle |
| <input type="checkbox"/> | Yellow-Change Interval - Increase | 10% | All Crash Types |
| <input type="checkbox"/> | Box Span Signal - Upgrade from Stop Control | 65% | Angle |
| | | -25% | Rear-End (Increases Crashes) |
| | | 20% | All Other Non Rear-End Crashes |
| <input type="checkbox"/> | Box Span Signal - Upgrade from Diagonal Span | 10% | All Applicable Crashes+ |
| <input type="checkbox"/> | Protected Left-Turn Signal Phase - Add | 30% | Left-Turn |
| <input type="checkbox"/> | Signal Head Size - Increase to 12 " | 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 - <i>Construct</i> | 80% | Rear-End Left-Turn |
| | | 50% | Head-On Left-Turn |
| | | 20% | Head-On, Angle, Other |
| | | 15% | Non Left-Turn Rear-End |
| <input type="checkbox"/> | Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.) | 30% | Angle |
| | | 15% | Rear-End |
| | | 10% | Head-On, Sideswipe, Pedestrian, Bicycle, Left-Turn Related |
| <input type="checkbox"/> | Offset Left-Turn Lane - <i>Construct</i> | 65% | Angle-Turn, Head-On Left-Turn |
| | | 20% | Rear-End Left-Turn |
| <input type="checkbox"/> | Offset Right-Turn Lane - <i>Construct</i> | 65% | Angle-Turn |
| | | 50% | Other Applicable Crashes |
| | | 20% | Rear-End Right Turn |
| <input type="checkbox"/> | Right-Turn Lane - <i>Construct</i> | 65% | Rear-End Right-Turn |
| | | 20% | Applicable Rear-End Crashes, Sideswipe Same Direction |
| <input type="checkbox"/> | Roundabout | 78% | Fatal and A-Injury Reduction |
| | | 57% | Minor Crash Reduction |
| <input type="checkbox"/> | Lighting | - | See MDOT Interchange Warranted Lighting Guidance and overall MDOT Lighting Guidance |
| General Intersection Enhancements (Non-Signalized Intersections) | | | |
| <input type="checkbox"/> | All-Way Stop Control - <i>New Installation</i> | 60% | All Applicable Crashes |
| <input type="checkbox"/> | Ground Mounted Flashing Beacons (Red)- <i>Install **</i> | 30% | All Crashes On Install Approach |
| <input type="checkbox"/> | Ground Mounted Flashing Beacons(Amber) - <i>Install **</i> | 20% | All Crashes On Install Approach |
| <input type="checkbox"/> | Signage - <i>Improve/Upgrade</i> | 30% | Angle, Rear-End Crashes |
| <input type="checkbox"/> | Pavement Markings - <i>Improve/Upgrade</i> | 30% | Angle, Rear-End Crashes |
| <input type="checkbox"/> | Reflective Sheeting on Sign Posts (<i>lollipops</i>) | 15% | All Applicable Crashes |

Rural Task Force Region Four Road Project Application

Section 1. Applicant Information

| | | | |
|--------------|---------------------|-------|------------------------|
| Agency Name | Village of Lawrence | | |
| Contact Name | Dan Faulkner | Title | Village Manager |
| Phone Number | 269-674-8161 | Email | manager@lawrencemi.org |

Section 2. Project Information

| | | | |
|---|---|--------------------------|------|
| Project Name/Road Name | East St. Joseph Street | | |
| Township/City/Village | Lawrence | | |
| Project Limits (e.g. Napier Ave. to Britain Ave.) | S Paw Paw St to East Village Limits | | |
| Project Length (nearest hundredth of a mile) | 0.5 | Proposed Year of Funding | 2021 |
| 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"/> Transit <input type="checkbox"/> Other | | |
| Project Description (Please provide major work items including sidewalks, utility work, ADA upgrades etc.) | HMA overlay of existing roadway, shoulder restoration, sidewalk replacement and additions, ADA ramps | | |

Section 3. Project Funding

| | |
|--|--|
| Federal STBG Requested | \$ 310,560 |
| State D | \$ 38,820 |
| CTF | \$ |
| Local Funds | \$ 38,820 |
| Total | \$ 388,200 |
| Match Percentage (match/total cost) | 10% |
| 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 checked="" type="checkbox"/> No Maximum Dollar Amount you can AC? \$ |

Section 4. System Preservation

| | |
|---|---|
| PASER rating | 3 |
| 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 type="checkbox"/> 10-14 <input checked="" type="checkbox"/> 15-20 Use MDOT's Guidelines for Geometrics on Local Projects |
| What 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 Michigan Crash Facts for crash data) | | | |
| Total Crashes | 5 | Pedestrian & Bicycle Crashes | |
| Fatalities | | Serious Injuries | |
| 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 | New roadway surface | | |

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 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: 2009 Source: SWMPC |
| National Functional Classification (NFC) for this roadway | Minor Arterial |
| Is the project on an All Season Road | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure |

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, please cite the plan and page number: To be identified |
| 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? | 1 |
| Is there a completed a utilities assessment that included televising the sewers in the project area? | <input checked="" type="checkbox"/> Yes <input 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 2017-2020 RTF cycle? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No What segment was the PREVIOUS project done on? W St Joseph |

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 2 | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Shoulder Surface | <input checked="" type="checkbox"/> Paved <input checked="" type="checkbox"/> Unpaved | | Width (ft.) 3 | <input checked="" type="checkbox"/> Paved <input checked="" type="checkbox"/> Unpaved | | Width (ft.) 3 |
| Sidewalk/ path information | Placement <input type="checkbox"/> One Side <input checked="" type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input type="checkbox"/> None | | Width (ft.) | Placement <input type="checkbox"/> One Side <input checked="" type="checkbox"/> Both Sides <input type="checkbox"/> Intermittent <input 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 checked="" type="checkbox"/> Utilities Upgrades Needed <input type="checkbox"/> Sewer and water work needed | | | <input type="checkbox"/> Replaced Utilities <input type="checkbox"/> Relocating Utilities <input checked="" 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 | | | Sidewalk replacement at ADA, ADA detectable warning plates and leaching basins | | | |

Section 10. Estimated Project Schedule

| Activity | Estimated Date |
|---|----------------|
| Resolution of Support for <input type="checkbox"/> Local Match Submitted to SWMPC | March 2019 |
| Project Application Submitted to MOT | September 2020 |
| Grade Inspection Package Submitted to MDOT | October 2020 |
| Grade Inspection Meeting Scheduled | November 2020 |
| Final Plan and Estimate to MDOT | December 2020 |
| Right of Way (ROW) certified* | |
| Rail Road Permits* | |
| Environmental Mitigation* | |
| Project Obligated | January 2021 |
| Project Letting | March 2021 |
| Construction Start <input type="checkbox"/> | June 2021 |
| Project Completion | August 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 - Install | 33% | Bicycle and Pedestrian Related Crashes |
| <input type="checkbox"/> | Fixed Objects From Clearzone (Trees, Culverts, Etc.) - Removal | 75% | Fixed-Object Applicable Crashes |
| <input type="checkbox"/> | Guardrail - Install | 55% | Lane Departure ***Fatalities and "A" Injury Applicable Crashes |
| <input type="checkbox"/> | Sidewalk for Pedestrians - Construct | 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 - install on segment | 20% | Dark Unlighted Crashes |

INTERSECTION CRASH REDUCTION FACTORS

| Pedestrian / Bicycle Enhancements | | | |
|--|---|-----|--|
| <input checked="" type="checkbox"/> | Bump Out / Curb Extension - Remove Parking / Install | 30% | All Crashes |
| <input checked="" type="checkbox"/> | Bicycle Lanes - Install per standards | 25% | Bicycle Crashes |
| <input checked="" type="checkbox"/> | Sidewalk for Pedestrians - Construct | 85% | Pedestrian Crashes |
| <input type="checkbox"/> | Intersection Lighting - install | 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 - Install new Pedestrian signal | 30% | Pedestrian Crashes |
| <input type="checkbox"/> | Ped. Countdown Signals - Upgrade from existing Pedestrian signal | 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 - Add per ITE | 20% | Head-On Left-Turn, Angle |
| <input type="checkbox"/> | Yellow-Change Interval - Increase | 10% | All Crash Types |
| <input type="checkbox"/> | Box Span Signal - Upgrade from Stop Control | 65% | Angle |
| | | -25% | Rear-End (Increases Crashes) |
| | | 20% | All Other Non Rear-End Crashes |
| <input type="checkbox"/> | Box Span Signal - Upgrade from Diagonal Span | 10% | All Applicable Crashes+ |
| <input type="checkbox"/> | Protected Left-Turn Signal Phase - Add | 30% | Left-Turn |
| <input type="checkbox"/> | Signal Head Size - Increase to 12 " | 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 - <i>Construct</i> | 80% | Rear-End Left-Turn |
| | | 50% | Head-On Left-Turn |
| | | 20% | Head-On, Angle, Other |
| | | 15% | Non Left-Turn Rear-End |
| <input type="checkbox"/> | Intersection Improvements (Realignment, Sight-Distance Improvements, Radii Improvements, Etc.) | 30% | Angle |
| | | 15% | Rear-End |
| | | 10% | Head-On, Sideswipe, Pedestrian, Bicycle, Left-Turn Related |
| <input type="checkbox"/> | Offset Left-Turn Lane - <i>Construct</i> | 65% | Angle-Turn, Head-On Left-Turn |
| | | 20% | Rear-End Left-Turn |
| <input type="checkbox"/> | Offset Right-Turn Lane - <i>Construct</i> | 65% | Angle-Turn |
| | | 50% | Other Applicable Crashes |
| | | 20% | Rear-End Right Turn |
| <input type="checkbox"/> | Right-Turn Lane - <i>Construct</i> | 65% | Rear-End Right-Turn |
| | | 20% | Applicable Rear-End Crashes, Sideswipe Same Direction |
| <input type="checkbox"/> | Roundabout | 78% | Fatal and A-Injury Reduction |
| | | 57% | Minor Crash Reduction |
| <input type="checkbox"/> | Lighting | - | See MDOT Interchange Warranted Lighting Guidance and overall MDOT Lighting Guidance |
| General Intersection Enhancements (Non-Signalized Intersections) | | | |
| <input type="checkbox"/> | All-Way Stop Control - <i>New Installation</i> | 60% | All Applicable Crashes |
| <input type="checkbox"/> | Ground Mounted Flashing Beacons (Red)- <i>Install **</i> | 30% | All Crashes On Install Approach |
| <input type="checkbox"/> | Ground Mounted Flashing Beacons(Amber) - <i>Install **</i> | 20% | All Crashes On Install Approach |
| <input type="checkbox"/> | Signage - <i>Improve/Upgrade</i> | 30% | Angle, Rear-End Crashes |
| <input type="checkbox"/> | Pavement Markings - <i>Improve/Upgrade</i> | 30% | Angle, Rear-End Crashes |
| <input type="checkbox"/> | Reflective Sheeting on Sign Posts (<i>lollipops</i>) | 15% | All Applicable Crashes |