# Salisbury Vision Zero Rapid Safety Improvements 



Salisbury Vision Zero Rapid Safety Program
FY2022 Safe Streets for All - Implementation

Total Project Planning \& Design Cost: \$14,691,983.34
Local/State Match: \$2,938,396.67
Requested FY2022 SS4A Funding: \$11,753,586.67

Submitted by the City of Salisbury, MD to the US Department of Transportation UEIC\# M2VTEB7MH7V9

July 28, 2022

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| Application Name | Salisbury Vision Zero Rapid Safety Program |  |
| :--- | :--- | :--- |
| Lead Applicant | City of Salisbury, MD |  |
| If Multijurisdictional, additional eligible <br> entities jointly applying |  | X |
| Roadway safety responsibility | Ownership and/or maintenance <br> responsibilities over a roadway <br> network | Safety responsibilities that affect <br> roadways |
|  | Have an agreement from the agency <br> that has ownership and/or maintenance <br> responsibilities for the roadway within <br> the applicant's jurisdiction |  |
| Population in Underserved Communities | Xaryland |  |
| States(s) in which activities are located | $\$ 14,691,983.34$ All funds to Maryland |  |
| Costs by State | $\$ 12,505,612.00$ |  |
| Funds to Underserved Communities | $\$ 188,404.28$ |  |
| Cost total for eligible activity (A) <br> supplemental action plan activities in support <br> of an existing Action Plan | K |  |
| Cost total for eligible activity (B) conducting <br> planning, design, and development activities <br> for projects and strategies identified in an <br> Action Plan | $\$ 452,328.24$ |  |
| Cost total for eligible activity (C) carrying out <br> projects and strategies identified in an Action <br> Plan | $\$ 14,051,250.82$ |  |
| Action Plan or Established Plan Link | $\underline{\text { Vision Zero Action Plan \& Vision Zero Webpage }}$ |  |

Table 2: Self-Certification Eligibility Worksheet
Worksheet instructions: The purpose of the worksheet is to determine whether an applicant's existing plan is substantially similar to an Action Plan, or not. For each question below, answer yes or no. For each yes, cite the specific page in your existing Action Plan or other plan/plans that corroborate your response, provide supporting documentation, or provide other evidence. Refer to Table 1 for further details on each component. Note: The term Action Plan is used in this worksheet; it covers either a stand-alone Action Plan or components of other plans that combined comprise an Action Plan.

Instructions to affirm eligibility: Based on the questions in this eligibility worksheet, an applicant is eligible to apply for an Action Plan Grant that funds supplemental action plan activities, or an Implementation Grant, if the following two conditions are met:

- Questions 3, 7, and 9 are answered "yes." If Question 3, 7, or 9 is answered "no," the plan is not substantially similar and ineligible to apply for Action Plan funds specifically for a supplemental action plan activity, nor an Implementation Grant.
- At least four of the six remaining Questions are answered "yes" (Questions 1, 2, 4, 5, 6, or 8).

If both conditions are met, an applicant has a substantially similar plan.

| Question | Response, Document and Page Number |
| :---: | :---: |
| 1. Are both of the following true: <br> - Did a high-ranking official and/or governing body in the jurisdiction publicly commit to an eventual goal of zero roadway fatalities and serious injuries? <br> - Did the commitment include either setting a target date to reach zero, OR setting one or more targets to achieve significant declines in roadway fatalities and serious injuries by a specific date? | Yes. Letter of commitment from the Mayor and Resolution from City Council adopting Vision Zero is in the Plan-Pg. 6-8 |
| 2. To develop the Action Plan, was a committee, task force, implementation group, or similar body established and charged with the plan's development, implementation, and monitoring? | Yes, VZ Task Force consisted of all the partners listed - Pg. 12 |
| 3. Does the Action Plan include all of the following? <br> - Analysis of existing conditions and historical trends to baseline the level of crashes involving fatalities and serious injuries across a jurisdiction, locality, Tribe, or region; <br> - Analysis of the location(s) where there are crashes, the severity, as well as contributing factors and crash types; | Yes, Data is shown in the Plan. Additionally City regularly reviews data through FARS and MDOT's RAVEN Program - Pgs. 21 37 |

- Analysis of systemic and specific safety needs is also performed, as needed (e.g., high risk road features, specific safety needs of relevant road users; and
- A geospatial identification (geographic or locational data using maps) of higher risk locations.

Yes, this is provide din analog map form in the Plan and in interactive form on the VZ website - Pgs. 21 - 37
4. Did the Action Plan development include all of the following activities?

- Engagement with the public and relevant stakeholders, including the private sector and community groups;
- Incorporation of information received from the engagement and collaboration into the plan; and
- Coordination that included inter- and intragovernmental cooperation and collaboration, as appropriate.

Yes, extensive public messaging and hearings in front of Council were conducted. City worked with jurisdictional partners to develop and review the Plan-Pgs. 12, 42
5. Did the Action Plan development include all of the following?

- Considerations of equity using inclusive and representative processes;
- The identification of underserved communities through data; and
- Equity analysis, in collaboration with appropriate partners, focused on initial equity impact assessments of the proposed projects and strategies, and population characteristics.

Yes, These concerns are notated specifically in a "Communities of Concern" section - Pgs. 38-39. Also, both the FY 21 and FY 22 Annual Reports specifically note the progress being made in low-mod income areas.
6. Are both of the following true?

- The plan development included an assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize safety; and
- The plan discusses implementation through the adoption of revised or new policies, guidelines, and/or standards.

Yes, reviewing how we implement current project and ways to maximize the safety benefits is specifically called out in the Taking Action Section - Pgs. 41-64

## 8. Does the plan include all of the following?

- A description of how progress will be measured over time that includes, at a minimum, outcome data
- The plan is posted publicly online.

Yes, the City tracks crash severity and occurrences and reports this annually to Council Pgs. 41, 64. Plan \& Annual Reports are available on City website.
9. Was the plan finalized and/or last updated between 2017 and 2022?

Yes. Adopted in 2020.

## Overview

After officially adopting Vision Zero in 2019, and approving a five year Vision Zero Action Plan in March of 2020, the City of Salisbury has been aggressive in confronting the dangers present on our street network, befitting our goal to end traffic fatalities and serious injuries by January 1, 2030.

Recognizing that it is the responsibility of the transportation network "owners" to ensure the system is safe, Salisbury has been building pedestrian and bike infrastructure at a breakneck pace since 2019. The City is unique in the Eastern Shore Region of Maryland it is the only urban area in the region that is occupied as such yearround (nearby Ocean City grows significantly in the summer, but the population is transitory). It is also the seat of rural Wicomico County and the location of Salisbury University, with approximately 10,000 students annually, is home to a large number of industries as diverse as food production, telecommunications manufacturing, offshore wind training and shipbuilding. This creates a unique context where the City is managing rights-of-way (RoW) for the safety of a very diverse, urban population, while trying to ensure that the surrounding residents attempting to access Salisbury as an employment center from the surrounding area can also safely reach their destination. In this way, Salisbury is very much a microcosm of a much larger regional area. The City intends to use funding from the grant to implement bikeways, infill sidewalk and side-path gaps, rapidly install traffic calming and improve intersections \& pedestrian crossings for the safety of all users.

The City is extremely committed to its promise of ending traffic fatalities and is following a strategy of confronting the fatalities and injuries on our streets first - rapidly implementing safety projects on City Streets over the first five years of the Plan while pushing forward the construction of safe crossing infrastructure for vulnerable users at key intersections with state-owned arterials. In the second five years, the City will continue to execute projects on City Streets, but will transition to working side-byside with MDOT-SHA, to better increase safety on the state-owned roads coursing through Salisbury, especially US 13 Business and US 50 Business. Award of this grant will specifically allow the City to escalate that time table by providing more countermeasures on City streets sooner, allowing us to move toward focus on the state arterials years earlier.


Figure 1: Citywide Aerial View of the High Injury network. Streets with a history of fatal or serious crashes are shown in red. Streets with smaller concentrations of injuries are in amber and streets with history of ped and bike crashes specifically are shown in green. (Some Streets will show in both red and green) Red flags are intersections with history of injury or ped/bike crashes.

## II. Project Location

## City of Salisbury \& Surroundings



As of the 2019 American Community Survey, Salisbury is a City of 32,693 people on Maryland's Eastern Shore and is the largest municipality in Wicomico County which contains 102,172 residents total. While Salisbury is an urbanized area, relative to the extremely rural surroundings, the City is located within the Salisbury-Wicomico Urban Area (UA Code 783264) comprising a total of 98,081 people as of 2010, the overall region is rural in context. It is a minoritymajority City with a racial composition of $49 \%$ White, $41 \%$ Black or African American, 5\% Hispanic, with the remaining 5\% consisting of Asian Americans, Pacific Islanders, Native Americans or residents identifying as two or more races. Approximately, 24\% of the City's residents currently reside below the poverty level - a decrease from previous years.

## The High Injury Network (HIN)

During the development of the City's Vision Zero Action Plan the City designated a HIN, including specific corridors and intersections, which were most dangerous and grouped these into three groups - streets/intersection most dangerous for all users, most dangerous for pedestrians and most dangerous for cyclists - recognizing the specific threats faced by distinct user types. (An image from a recent update of pedestrian crash data is visible, left). These streets and intersections are specifically called out in the Action Plan and the HIN Map available on the Vision Zero webpage.

The Vision Zero Plan was developed based on data from 2015-2018 and revealed that of the 3,456 crashes that occurred in City limits in that time frame, 1,875 of those or $54 \%$ - occurred on City-controlled streets. The remaining crashes occurred on private or Salisbury University controlled streets or on State-controlled roads. More importantly, while the vast majority of fatal crashes occurred on state roads ( $75 \%$ ), the majority of pedestrian and cyclist crashes occurred on City streets ( $63 \%$ and $88 \%$ respectively)., while serious injuries were nearly as likely to occur on City streets as those on State roads ( $45 \%$ of serious crashes occurred on City streets).

The City also was able to discover that fatal crashes in the City's jurisdiction were occurring on just 2\% of the City's street network, 50\% of serious injury crashes were occurring on only $6.4 \%$ of streets and $37.8 \%$ of pedestrian crashes occurred on 5 streets while 24.5\% of bike crashes occurred on 3 streets. This analysis led the designation of the HIN and the strategies that followed. The City has made significant progress in reducing our crash numbers since 2020 - a rejection of the national trend toward increased fatalities the City is proud given that in the 2022 Dangerous by Design Report Maryland is listed overall as the $16^{\text {th }}$ most dangerous state to walk or bike in.

Figure 2: A Hotspot analysis of Pedestrian crashes along the US 13 Business corridor - taken from the RAVEN crash data (using 20172019 crash data) web map service funded by MDOT-MVA. This location is the City's core, with Downtown fully encompassed in the red, and the University and outlying minority neighborhoods encompassed by the yellow, illustrating their higher than average level of pedestrian crashes

## Location \& Context Based Interventions

The Proposed Project is a Citywide Safety Improvement Project that will place countermeasures that can be rapidly applied on streets with known fatal and serious crashes, and streets with similar characteristics to systemically prevent future crashes.

Of the known crashes across the City's jurisdiction that informed the development of the HIN, the City is concentrating on addressing known locations of fatal \& Serious Injury crashes and concentrations of crashes involving people walking and biking first, regardless of severity, as it is incredibly likely for any ped/bike crash to be serious. The City is also moving to address streets where a concentration of property damage and minor injuries crashes have occurred due to the fact that in an urban environment any such crashes may have been serious if a few variables had been different.

Where known bike crashes have occurred, the City will install bikeways, and the sidewalk network will be infilled to remove gaps and crosswalks will be installed where pedestrian crashes have occurred. RRFB's or LPI's are planned for known risky pedestrian crossings. Traffic calming, to include lane narrowing, road diets etc. will be installed where speeding is of concern. At City controlled intersections, minor realignments, signal retiming, access management and intersection daylighting will be utilized. At MDOT-SHA controlled intersections, the City is prepared to work with the State to pursue improved ped and bike crossing facilities to reduce the risk presented by the larger state-controlled facilities. Along the corridor formed by College Ave, Beaglin Park Dr and Naylor Mill Rd, the City will infill the missing segments of a side path that's has long been under utilized due to gaps in the route.

## Crash Patterns

Significant numbers of crashes, especially for vulnerable users are concentrated in the Downtown Area (a busy urban center), the West Side, Church St-Doverdale, Presidents-Princeton (all minority-majority areas, two of which are Areas of Persistent Poverty) and the University District. Due to this, a significant majority of the funds requested will be spent in minority-majority neighborhoods that were harmed by the construction of large collector and arterial streets in decades past. Recent City efforts as part of the Vision Zero Initiative are working, and areas that have seen improvements the same improvements that are proposed here for the rest of the HIN - are seeing significant reduction in overall crash numbers and severity of crashes that do occur.


Figure 3: A Hotspot analysis of Bike crashes along the US 13 Business corridor (using 2017-2019 crash data) - taken from the RAVEN crash data web map service funded by MDOT-MVA. The Trail system will provide a safe alternative to usage of US 13 Business for vulnerable users. The proposed route of the Trail is overlaid in red for reference.

Salisbury is also cognizant of the fact that the state-controlled arterials running through Salisbury present a unique set of safety and operational challenges that must be addressed in partnership with MDOT-SHA. With this in mind, the City has been an active partner with MDOTSHA, funding and managing various safety projects, such as the Carroll Street Cycle Track Crossing of US 13 Business (to include ped signals), that is at the $90 \%$ design level and will be constructed in association with this grant. This process will continue as the City pursues more infrastructure for vulnerable users along state controlled arterials as part of this project.

As the City of Salisbury is a minority-majority municipality with a large number of low-moderate income residents, the vast majority of the projects under the Vision Zero Program provide direct benefits to members of disadvantaged communities. This can be measured in terms of census tracts defined as Areas of Persistent Poverty (APP) or Historically Disadvantaged Communities (HDC) by the USDOT or Community Development Target Areas, by the US Census Bureau. These disadvantaged areas are also the areas directly affected by the streets on the HIN as shown on page 5. As listed in our Vision Zero Plan, these neighborhoods are the City's Communities of Concern, where persistent safety concerns, low-income, and a history of disinvestment all collide. It is the City's goal to remove every neighborhood from this list through proactive engagement and safety improvements.

## Areas of Persistent Poverty

Many of the APP's in the City are bordered or bisected by streets on the HIN. This includes Census Tracts 3, 4 and 5. These tracts are shown on Figure 16 on the next page. All data can be considered against the baseline that Wicomico County has an overall poverty level of $15.8 \%$ (opposed to $9 \%$ for Maryland as a whole) and unemployment rate of 5.9\%.

Census Tract 5 covers the southeast quadrant of the City including the neighborhood of PresidentsPrinceton and currently has an unemployment rate of $14.7 \%$ and a poverty level of $28.1 \%$. Tract 5 will benefit from new sidewalks and bikeways constructed under this grant and most importantly, crossings of Eastern Shore Drive and US 13 Business. Improvements will dramatically improve safety and provide vital transportation options for a community struggling with housing and transportation costs.

Census Tract 4 covers the southwest quadrant of the City and currently has an unemployment rate of $7.4 \%$ and a poverty level of $21.6 \%$. Tract 4 contains Salisbury University, significant student housing and has a high rate of walking and cycling. New bikeways and infill of missing gaps in the sidewalk network will benefit this Census tract, as will further safety upgrades to key streets on the HIN in this area: Camden Ave, Riverside Dr, W College ., South Blvd., and Waverly Dr.

Census Tract 3 comprises the are of the City known locally as "The West Side." Census Tract 3 which has an unemployment rate of $4.8 \%$ and a poverty level of $34.5 \%$, has received numerous bikeway upgrades in recent years, but lacks signalized pedestrian crossings - especially of US 50 Business - and suffers from a number of sidewalk gaps.

## Areas of Persistent Poverty

| Wicomico <br> County Census <br> Tract | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{1 0 1 . 1}$ | 102 <br> (HDC) |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Population | 5,651 | 1,790 | 1,401 | 3,647 | 3,114 | 5,720 | 6,232 |
| \% Poverty | 26 | 16.8 | 34.5 | 21.6 | 28.1 | 8 | 20.8 |
| Disadvantaged Status |  |  |  |  |  |  |  |
| Transportation | X |  |  |  |  |  | X |
| Equity | X | X | X | X |  | X | X |
| Economy | X | X | X | X | X |  | X |
| Health |  | X |  | X |  |  | X |



Figure 4: The City's HIN as it relates to HUD designated CDBG Target Areas. These areas are also minority-majority in addition to lowmod income. Color Coding is the same as Figure 1

## Progress by Location to Date

The City has not been idle since the adoption of the Vision Zero Action Plan. While the Plan was in development and since its adoption, the City has built 10 bikeways totaling 10.68 miles - all on streets that form the basis of the HIN. Three more are under construction as of this writing and the City was recently awarded a TAP grant via MDOT-SHA to design fifteen more bikeways (funding is sought under this application for implementation of those fifteen bikeways). Additionally the City has infilled 3.6 miles of sidewalk and upgraded 206 ADA ramps since 2017, greatly expanding the usability of the existing network. The City is proposing to utilize funding from this grant at locations specified in the table in Appendix II.

## III. Selection Criteria

## Safety Impact

## The City's proposal to fund the rapid overhaul and traffic calming of every City owned arterial and collector street will create a dramatic increase in safety for all network users.

The proposed rapid safety improvement program will infill sidewalks, establish bike lanes and provide upgraded pedestrians crossings of various types across the City - by the end of the program every City owned collector or arterial street would feature complete sidewalk networks and either a bikeway or context-appropriate infrastructure implemented. Improvements will take place on HIN streets first (see our VZ Action Plan for specific locations) with the City executing systemic safety projects to mitigate dangers citywide once the HIN streets \& intersections have been addressed.

With the known crash histories, which account for an average of 2 fatalities a year on City streets and a multitude of injurious crashes, Salisbury predicts a significant reduction in the likelihood of crashes with the implementation of this project given the Crash Modification Factors (CMF) of the countermeasures being constructed.

Throughout this process the City will coordinate with MDOT-SHA to upgrade crossings where there is a history of safety concerns for vulnerable users. City staff have excellent relationships with their SHA partners and have shepherded many such rapid safety projects through the State approval process in the past. As the design and approval process for such coordination's is lengthy, these project will be brought to MDOT-SHA as soon as an agreement is in place with the City and USDOT and implementation will occur as approvals are awarded. Please note that all countermeasures proposed as part of this project are one of the FHWA's 28 Proven Safety Countermeasures.

| Countermeasures Proposed | CMF Number | CMF (CRF \%) of Countermeasures in Project |
| :---: | :---: | :---: |
| Sidewalks \& Walkways | N/A | Up to $88 \%$ reduction in ped crashes* |
| Dedicated Bike Facilities | 4034 | 0.55 (45\%) |
| Ped Signals | 8480 | AADT Dependent |
| Leading Ped Intervals | 9902 | 0.82 (17\%) |
| Marked Crosswalks | 4124 | $\begin{aligned} & 0.6-0.81 \\ & (19-40 \%) \end{aligned}$ |
| RRFB's | 9024 | 0.526 (47.4\%) |
| Area-wide Traffic Calming | 132 | 0.6 (40\%) |

[^0]
## Equity, Engagement Collaboration

## Implementation of Safety Infrastructure where it is needed most.

## Benefit -

Improving the quality of life of Salisbury's residents in an equitable manner - ensuring that those long denied access to certain areas of our society - is a prime goal of the project. The existing transportation network in Salisbury, though improving, has long been dominated by extremely wide, high speed arterials constructed along the edges of and through minority-majority low-income neighborhoods. This has had the effect of walling off the residents of PresidentsPrinceton, E Church \& Doverdale, and the West Side.

The Project focus on the HIN ensures that minority-majority neighborhoods are the primary beneficiary of the awarded funding. Approximately $89 \%$ of all project funds will be spent in an Area of Persistent Poverty or Historically Disadvantaged Community. This is direct benefit to neighborhoods of color, consisting primarily of African-Americans and Hispanic residents. Large numbers of residents from these neighborhoods are recent immigrants from Caribbean nations as well. Economic data for these parcels is supplied in a previous section.

The City currently maintains a Vision Zero Website as a way of engaging the public on street safety. This is in addition to annual reports to City Council on Progress and monthly updates to the Salisbury-Wicomico Bicycle and Pedestrian Advisory Committee (BPAC). There is also a current Citizen Reporter where residents can report a variety of concerns to the City online, among those being speeding and other transportation related safety concerns. These are tracked and have been used to inform project selection. As part of the grant, the City will develop further VZ outreach tools including a dashboard that will display ongoing projects and safety data.

If awarded, the City will also immediately begin outreach into the communities scheduled to receive safety improvements to ensure the residents have been informed of the benefits of the project and to identify any recent safety issues that could be resolved through the project.

The City is also a strong partner to both MDOTSHA and Salisbury University in its safety efforts and both entities have expressed support in collaborating to end traffic fatalities and serious injuries in the City. Both the local MDOT-SHA team and University will have seats at the table as the projects develop further.

## Effective Practices and Strategies

## Application of known and proven safety countermeasures at dataverified locations

## Benefit -

The City will apply proven best practices, many of which are featured in the FHWA's Proven Safety Countermeasures, to locations on the HIN based on known crash data, and apply systemic measures citywide based on known speeding data and context of the neighborhood (such as the presence of an elementary school, or park).

This projects aims to install:

- 21 miles of sidewalk infill segments on collectors and arterials;
- 4.5 miles of side-paths along arterial streets to infill gaps in the network;
- Approx. 100 new high-visibility crosswalks or crosswalks upgraded to high-visibility "continental" styles;
- 12 crosswalks upgraded with beacons (RRFB's);
- Pedestrian signals installed at approx. 24 intersections;
- A minimum of 9 miles of bikeways installed;
- Approximately 36 streets and numerous intersections calmed to prevent excessive speeds;
- Approx. 160 intersections "daylighted." with permanent or interim curb extensions

The City has ample experience implementing "quick-build" safety improvements made popular by larger municipalities and constructing sidewalks and side-paths. As planned, this funding will allow the near completion of the City's 2017 Bikeways Masterplan - providing a fully connected network across the City - infill sidewalks on every street deemed a minor collector and larger, and provide connected side-paths on major City arterials.

## Climate Change, Sustainability and Economic Competitiveness:

A positive secondary benefit to the proposed safety improvements will be a decrease in impervious surface and an increase modal share of people walking and biking, thereby reducing emission and contributing to the water quality of the Wicomico River (and Chesapeake Bay) and increasing the air quality in the City.

As part of the overall project, but particularly with bikeway and intersection improvements construction, the City will seek to remove excess pavement wherever possible to realign intersections for slower speeds and place planted medians in between the bikeways and motor vehicles (the City will pay for any landscaping cost from its regular resurfacing program). The largest opportunity is in the potential mode share increases of people walking and biking as a form of transportation as a result of the improvements. It has been documented in many studies that safety improvements for vulnerable users will result in increasing numbers of pedestrians and cyclists. Survey data from Salisbury's MovesBY Masterplan a long range mobility masterplan (in Draft at the time of this writing) has proven that local users desire to walk and bike more but still feel as though their route is not completely safe to do so - gaps in the bike and sidewalk networks were the most cited reasons why residents did not walk/bike more often. This project will infill the bulk of these gaps in the network and open up the possibility for those residents to travel on foot or bike.

Economically, the proposed project maximizes every dollar invested. Project Management and most GIS tasks will be handled by City staff, with GIS and data collection support being provided by Salisbury University (SU) and its Eastern Shore Regional GIS Cooperative (ESRGC). ESRGC is a program of SU, staffed by full-time professional GIS analysts with additional support by students. Using this approach allows the City to minimize cost, while receiving a professional quality project and simultaneously providing an opportunity for SU students to learn about and get involved in the City's Vision Zero effort.

The City is also proposing to use low-cost materials that can be rapidly rolled out via a variety of methods, including assigning City Staff to install some items (signage, delineators etc.) using ex. on-call contracts or issuing new on-call bids as required for contractors
that would last the duration of the grant period, allowing the City to move extremely quickly to install City Standard, ADA compliant facilities on the HIN as proposed. This approach, detailed in a basic Benefits-Cost Analysis is further highlighted in the appendices.

## Secondary Benefit - Increased Access and Confronting Injustices

A major secondary benefit to this safety project is the increase in access it will bring to traditionally underserved and disinvested areas. Areas such as the West Side. Church St-Doverdale and Presidents-Princeton have been the subject of general disinvestment and urban decay until recently - these same neighborhoods were also subject to demolition and dislocation when the State and City controlled arterials and collectors were built. These are the same streets and roads, US 13 Business, Eastern Shore Drive, Carroll Street, Fitzwater-Parsons that are now the subject of the City's HIN and the streets where Salisbury is focused on improving safety outcomes for all. An entire African-American Neighborhood, Georgetown, was demolished when US 50 Business was constructed. The Church StDoverdale neighborhood contains the remnants of Georgetown. Today this neighborhood is divided from Downtown by both US 13 and US 50, and impacted by Church St, Truitt St and Naylor St - all three streets which run through the neighborhood and are on the HIN. The transportation decisions of the past have dramatically impacted safety in such neighborhoods.

This project will begin to rebalance this by restoring the ability of the residents of Church StDoverdale and other neighborhoods impacted in a similar manner to navigate their community safely. As importantly, this newfound safety will increase access to the wider community for the residents of the City's core neighborhoods where income equality is a concern. This will provide those resident the opportunity to navigate across a wider swath of the City safely on foot or bike, in turn giving them increased access to government services (largely concentrated Downtown), employment and higher education.

## Environmental:

The City is actively pursuing NEPA approval at the time of this application. Under $\S 771.117$ of the Federal code -FHWA categorical exclusions, the City will apply for a programmatic categorical exclusion of the project as the project will not significantly alter the environment in any way:

- The project consist of a bike and pedestrian pathways and safety upgrades which is a listed exclusion;
- Construction will occur in existing rights-ofway;
- No residential units will be affected and no relocations of residents will be necessary;
- No historical properties will be affected by the safety improvements;
- No major traffic patterns will be significantly altered;
- The safety improvements are "to-the good" environmentally and will most likely result in increased bike/ped mode share and contribute to reductions in automobile emissions.


## Management:

The City is staffed and experienced to handle the delivery of the project in five years or less. As shown in the attached budget summary, the City intends to complete the project within four years by working almost exclusively in the City RoW. Where City streets cross state routes, a very small portion of the project that will consume approx. 5-10\% of funds, City Transportation staff will engage MDOT-SHA immediately upon authorization to expend funds. This is so that state-required traffic impact studies can begin immediately to avoid delays at the end of the project. It is expected that the design for crossings of state facilities' will take approximately 18-24 months and therefore the crossings of state roads will be built at the tail-end of the project.

Work on the vast majority of project areas, where the City (or Salisbury University in the case of Wayne Street) control the RoW will begin immediately. The City will design facilities in accordance with the FHWA recognized NACTO Street Design Guidelines and the MUTCD.

## Staffing:

The City is fully staffed with professional transportation personnel to handle the safety upgrades. A dedicated Transportation Manager (TM) will be responsible for the overall conduct and coordination of the project. The TM regularly executes projects expending federal funds and is familiar with the necessary requirements.

A dedicated Transportation Inspector will handle daily project inspection and documentation. This inspector is supported by a full Construction Management and Inspection team that can assist with project assignments and inspection coverage to ensure every dollar spent is used to its fullest. Signal work will be handled in house by full time Traffic Signal Technicians and an in-house Transportation Engineer will provide engineering and design support.

The City is also staffed with a full-time civil engineering team and Procurement and Finance Departments that are experienced and adept in managing and expending federal funds, accountability of the project funds and annually submit to an external audit in accordance with federal regulation. All of these positions are fully funded, full time City employees and as such, the cost will be born by the City's annual budget and not the grant award - maximizing federal support for the actual infrastructure.

Additionally, the City has contracted with Construction Management firms in the past to "surge" capacity. While Staff does not expect the need to exercise this option, it is prepared to execute contracts if needed and fund them from other sources, exclusive of this grant application, maximizing project dollars spent on design and implementation

## Schedule:

## (City Fiscal Years begin July 1)

## FY2023

- December - Anticipated Award
- Jan - City-led public engagement begins
- June - Authorization to spend grant funds


## FY2024

- July - Kick-Off with USDOT, City, MDOT-SHA \& SU
- Aug - Design consultant selected for State Road crossing designs \& Side-paths
- Contracts advertised for sidewalk and bikeway construction
- Sep - Contracts for sidewalks/bikeway awarded, City begins initial construction on traffic calming
- Oct - Construction begins on first bikeways and sidewalks and will continue throughout the length of the project
- Feb - Traffic Studies submitted to MDOT-SHA for state road crossings. Design begins on crossings.
- June - City presents first year's progress report to USDOT (will occur annually in June)

FY2025

- July-June - ongoing sidewalk, bikeways and traffic calming construction continues
- Ongoing design development of side-paths and state road crossings continue
- May - Side-path construction begins
- June - State Road crossing construction begins


## FY2026

- Ongoing projects continue
- March-April - All construction completed
- June - Punch list items completed
- Grant closeout begins, final report delivered to USDOT


## Appendix I-Budget

## Funding Summary

Total - \$14,691,983.34

| Subtotal Budget for (A) Supplemental Action Plan Activities | $\$ \mathbf{1 8 8 , 4 0 4 . 2 8}$ |
| :--- | :--- |
| Itemized Cost for (A) Supplemental Action Plan Activities |  |
| Item \#1 Annual Safety Progress Reporting | $\$ 47,951.38$ |
| \#2 Data Collection \& Mapping | $\$ 104,052.90$ |
| \#3 Final Safety Report | $\$ 36,400.00$ |
| Subtotal for (B) conducting planning, design \& development <br> activities | $\$ 452, \mathbf{3 2 8 . 2 4}$ |


| Itemized Cost for (B) conducting planning, design \& development activities |  |
| :--- | :--- |
| Item \#1 Intersection Improvement Design | $\$ 185,178.24$ |
| \#2 Side-path Design (Bikeways are being designed under a <br> separate grant) | $\$ 267,150.00$ |
| Subtotal Budget for (C) carrying out projects \& Strategies | $\$ 14,051,250.82$ |
| Itemized Cost for (C) carrying out projects \& Strategies |  |
| \#1 Sidewalk/Side Path Construction | $\$ 8,557,921.43$ |
| \#2 Ped Crossing \& Signal/Crosswalk Construction | $\$ 546,859.09$ |
| \#3 Bikeway Implementation | $\$ 3,580,957.09$ |
| \#4 Traffic Calming | $\$ 878,224.77$ |
| \#5 Intersection Improvements | $\$ 487,288.44$ |
|  | $\$ 12,505,612.00$ |
| Subtotal Funds to Underserved Communities |  |

## Appendix II - Project Treatment Areas

## Priority Streets \& Corridors on the High Injury Network

| Streets / Corridors | Sidewalk/ <br> Sidepath Infill | Bikeway | RRFB | Ped Signals | LPI | Traffic Calming | HFST**/ <br> Rumble <br> Strips |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Carroll St | X | X | X | X | X | X | X |
| E Main St | X | X |  | X | X | X |  |
| E Church St |  | X |  |  |  | X |  |
| Eastern Shore Drive |  |  |  | X | X | X |  |
| Isabella St | X | X | X | X | X | X |  |
| Waverly Drive |  | X | X | X | X | X | X |
| Camden Ave | X | X | X | X | X | X |  |
| Truitt St | X | X | X |  | X | X |  |
| College Ave | X |  |  |  | X | X |  |
| Beaglin Park Dr | X | X |  |  |  | X | X |
| Naylor Mill Rd | X |  |  |  |  | X |  |
| Mill Street |  |  |  |  | X | X |  |
| Northwood Dr | X |  |  |  |  | X |  |
| West Rd | X |  | X | X | X | X |  |
| Eastern Shore Dr* |  |  | X | X | X | X |  |

*Eastern Shore Dr. will receive access management as the intersections of Washington St., (scene of 2018 fatal) Monroe St, Carrollton St. and all-way intersection stop control at E Carroll St.
** High Friction Surface Coarse

## Streets \& Corridors Targeted for Systemic Improvements

The Streets listed below are not on the HIN, but are classified at least as a minor collector and have conditions similar or equal to streets on the HIN, or serve as an alternate parallel route for vulnerable users to a larger, State-owned road (Northgate Dr)

| Streets / <br> Corridors | Sidewalk/ <br> Side-path Infill | Bikeway | RRFB | Ped Signals | LPI | Traffic Calming |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Snow Hill Rd | X | X | X | X | X | X |
| Lincoln St | X | X |  |  |  | X |
| Long Ave | X | X | X | X | X | X |
| Milford St |  | X |  |  | X | X |
| Northgate Dr | X | X |  |  |  | X |
| Carrollton Ave* |  |  |  |  |  | X |
| Princeton Ave* |  |  |  |  |  | X |

* Carrollton traffic calming and installation of multiple low-cost countermeasures is to prevent future speeding due to a crash that occurred in 2019. Princeton has very similar context and will receive the same calming treatment to prevent future crashes.


## Other City Intersections

There are a few City-controlled intersections that have a crash history, or present a safety issue for vulnerable users that will receive improvements under this grant but are not on a corridor named in the above charts. These intersections have unique characteristics the City will modify or remove completely to improve safety.

| Intersection | Slip Lane <br> Removal | Access <br> Closure | Geometric <br> Change | Traffic <br> Calming |
| :--- | :---: | :---: | :---: | :---: |
| Riverside Dr \& Riverside Rd | X | X |  | X |
| Waverly Dr \& Vine St | X |  | X | X |
| Fitzwater St \& Oil Terminal <br> Access Rd |  | X | X | X |

## MDOT-SHA Controlled Crossings to be Studied/Improved

The City is committed to working with MDOT-SHA to develop countermeasures along State controlled routes where there have been a history of serious and fatal crashes, as well as bike and pedestrian crashes. The City has experience in this, having recently redesigned a crossing of US 13 Business at Carroll Street to accommodate upcoming protected bike lanes. The proposed crossings to be studied and redesigned include some of the city highest crash locations for pedestrians and cyclists and are all generally in the Downton Core or University district where there are high numbers of pedestrians and cyclists.

| State Route | Intersecting <br> City Street | Upgraded <br> Bikeway <br> Crossing | Ped <br> Signals | LPI | Hi-Viz <br> Crosswalks |
| :--- | :---: | :---: | :---: | :---: | :---: |
| US 13 Bus. | E Main St | X |  | X | X |
| US 13 Bus. | E Church St | X |  | X | X |
| US 13 Bus. | Vine St. | X | X | X | X |
| US 13 Bus. | South Blvd. | X |  | X | X |
| US 13 Bus. | W College Ave. | X |  | X | X |
| US 50 Bus. | Truitt St. | X |  | X | X |
| US 50 Bus. | Delaware Ave | X |  | X | X |
| US 50 Bus. | Lake St. | X |  | X | X |
| Mill St. | W Main St | X |  | X | X |

## Anticipated Safety Gains

Based on historic crash data, the City can estimate potential Fatal, Serious and Injurious Crashes prevented by the implementation of this grant project. Historically, Salisbury has averaged 863 crashes annually requiring a crash report/police involvement (based on SPD Data). Of these approximately $36 \%$ are injurious. Fatal rates are historically more fluid, but typically average five per year, mostly on state-controlled roads and these crashes overwhelmingly tend to be pedestrians and bicyclists, or motorists at an intersection. Until Vision Zero, the City had averaged 2 fatalities per year on City Streets (in 2021 there were no fatalities recorded) There were several fatalities on the State controlled roads. As such, there is a significant focus in this grant application on installing sidewalks, side-paths, protected bikeways, improved ped/bike crossings and intersection improvements.

The vast majority of fatal and serious crashes in City limits are concentrated in the core of the City, where this grant is focused. Every fatal crash location on City streets since 2015, that has not already received safety upgrades under the City's Vision Zero Program, is specifically addressed in this grant. The City has seen the trend where these fatal crash locations are at the same intersections, or along the same streets as serious and injurious crashes - locations that also tend to be synonymous with crashes involving pedestrians and cyclists. As these streets are primarily collector or arterial streets with higher speeds and a high concentration of conflict points, the City intends to not only respond to crash histories but proactively install safety measures along known corridors and intersections where conditions are similar to the concentrations of fatal and serious crashes.

Over the last five years of available data (2016-2020 via FARS) the City has averaged 0.8 fatalities per year on City streets, with that total climbing to 1.2 per year if state roads are included. Injurious crashes are much higher with a three year average of 342.3 annually on City and state roads in the City limits (based on Salisbury PD data from 2019-2021). While the City does not expect to completely eliminate injurious crashes the City's intent is to eliminate fatal crashes and reduce injurious crashes to $40 \%$ of what they are currently during the course of this project. Over 20 years, that would translate to 24 lives saved through the prevention of fatal crashes and 2,738.4 injuries prevented from crashes. Using standard values from USDOT, this provide a financial return of:

24 fatalities prevented at value of $\$ 11,600,000$ each $=\$ 278,400,000.00$

2,738.4 Injuries prevented at value of $\$ 151,100^{*}$ each $=\$ 413,772,240.00$
Total value of fatal and injurious crashes prevented $=\mathbf{\$ 6 9 2 , 1 7 2 , 2 4 0 . 0 0}$ in safety benefits

* City utilized value of non-incapacitating injury crashes as an average for computation as the known SPD data as collected on scene cannot breakdown severity of injuries.


## Appendix III - High Injury Network List

| Streets / Corridors | Fatal / <br> Serious Injury History | Ped <br> Injury <br> History | Cyclist Injury History | General Crash Concentration | Unsafe Design for Vulnerable Users |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Carroll St | X | X | X | X | X |
| E Main St | X |  |  | X | X |
| E Church St | X | X |  |  | X |
| Eastern Shore Drive | X | X | X | X | X |
| Isabella St | X | X |  |  |  |
| Waverly Drive | X | X |  |  | X |
| Camden Ave | X | X | X |  | X |
| Truitt St | X |  |  | X |  |
| College Ave | X | X | X | X | X |
| Beaglin Park Dr | X |  |  | X | X |
| Naylor Mill Rd | X |  |  | X | X |
| Mill Street | X | X | X | X | X |
| Northwood Dr | X |  |  | X | X |
| West Rd | X | X | X | X | x |

## Appendix IV - Links to Supporting Material

## City of Salisbury Vision Zero Action Plan:

https://salisbury.md/wp-content/uploads/2020/05/FY2021-2025-Vision-Zero-Action-Plan.pdf

- FY 2021 Annual Report:
https://salisbury.md/wp-content/uploads/2021/07/FINAL-Vision-Zero-Annual-Report-FY-2021.pdf
- FY 2022 Annual Report:
https://salisbury.md/wp-content/uploads/2022/06/Vision-Zero-Annual-Report-FY-2022.pdf


## City of Salisbury Vision Zero Website:

https://vision-zero-salisbury.hub.arcgis.com/

## MoveSBY - City 30 Year Mobility Masterplan Website:

https://bike-salisbury.hub.arcgis.com/pages/movesby

## City FY23 Budget:

https://salisbury.md/wp-content/uploads/2022/04/Mayors-Proposed-Budget-2023.pdf

## City FY 23-27 Capital Improvement Plan:

https://salisbury.md/wp-content/uploads/2022/04/Salisbury-CIP-2023-2027.pdf
Salisbury Bike Network Viewer (GIS):
https://bit.ly/3bHHuql
Salisbury Sidewalk Network Viewer (GIS):
https://bit.ly/2EUASmI

MDOT-MHSO RAVEN Crash Reports (Attached to Application Package as a .zip file):

- 2015-2018 Citywide Crash Analysis
- 2022 Citywide Crash Analysis Update
- Eastern Shore Drive Crash Analysis
- Fitzwater-Parsons Crash Analysis
- Church St and Truitt St Analysis


## Appendix V - Letters of Support

Letters from the following organizations are attached:

Salisbury University<br>Salisbury - Wicomico Economic Development (SWED)<br>Salisbury Area Chamber of Commerce<br>Greater Salisbury Committee

## Appendix VI - Maps of Sidewalk Gaps

## Sidewalk Gap Analysis of CITY Owned Streets Classified Collector and Above

Note: Following pages show sidewalk gaps along all streets in the City classified as a minor collector or higher. Please note that due to the nature of the City's GIS data an dhow it is queried, some sidewalk segments along connecting local streets are highlighted - the City intends to infill some of these for connectivity, but will generally stay focused on collector streets.


## Missing Sidewalk Segments

On Salisbury Roads with a Functional Classification of Minor Collector and Above Salisbury, Maryland

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Missing Sidewalk Segments







[^0]:    *     - Number taken from FHWA's "Safety Benefits of Walkways, Sidewalks \& Paved Shoulders" (available at safety.fhwa.gov) due to a lack of applicable CMF available from the CMF Clearinghouse.

