



Pedestrian Safety Action Plan

City of Bath



MaineDOT

August 2020

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Heads Up Project Overview

The Maine Department of Transportation (MaineDOT) has partnered with the Bicycle Coalition of Maine (BCM) and 21 communities across Maine to facilitate a series of public meetings addressing pedestrian safety. As part of the **Heads Up Pedestrian Safety Initiative**, these meetings:

- collected information on locations the residents felt were unsafe;
- identified possible infrastructure changes to improve pedestrian safety; and
- discussed specific educational and law enforcement interventions that might improve driver and pedestrian behavior.

The aim of the project is to explore potential short-, medium-, and long-term action strategies to improve pedestrian safety and reduce crashes.

Purpose and Need

From 2003 to 2014, the number of persons killed while walking on Maine's roadways hovered between 7 and 13 per year. Like many other states across the country, beginning in 2015 and extending through 2017, Maine experienced a sharp increase in pedestrian fatalities, reaching a Maine's high of 19 in 2017. In 2018, Maine had only 6 fatalities, but 2019 continued the trend of higher numbers with 18 pedestrian deaths.

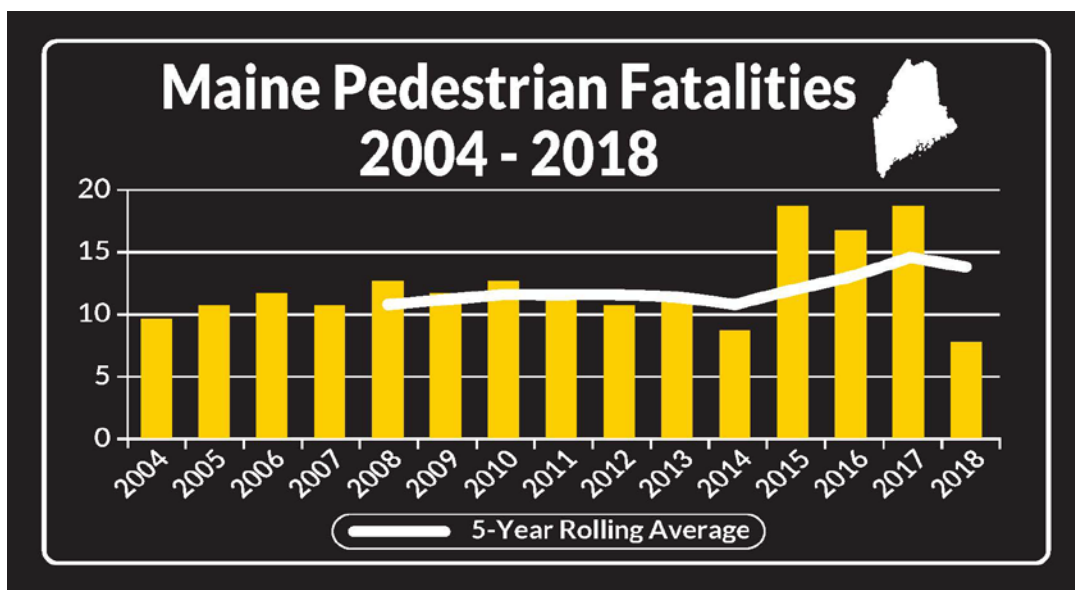


Figure 1: Maine Pedestrian Fatalities (2004 - 2018)

Maine’s crash data indicates this increase in pedestrian fatalities has no clear single cause, but is the result of a combination of factors including roadway design and risky behaviors by both drivers and pedestrians.

In late 2016, MaineDOT initiated a process to engage the public in efforts to improve pedestrian safety. MaineDOT’s Safety Office identified 21 communities that experienced the highest number of pedestrian crashes between 2011 and 2015, often representing the state’s most densely populated and “urbanized” areas. The identified 21 “Focus Communities” in alphabetical order are:

1.	Auburn	8.	Camden	15.	Saco
2.	Augusta	9.	Hallowell	16.	Sanford
3.	Bangor	10.	Lewiston	17.	South Portland
4.	Bath	11.	Old Town	18.	Topsham
5.	Biddeford	12.	Orono	19.	Waterville
6.	Brewer	13.	Portland	20.	Westbrook
7.	Brunswick	14.	Rockland	21.	Winslow

Figure 2: Heads Up Pedestrian Safety Project - Focus Communities

The **Heads Up Pedestrian Safety Project** was launched in 2017 and is anticipated to run at least through 2020.

This initiative includes the following activities for each of the 21 Focus Communities:

1. Convene and facilitate **Community Pedestrian Safety Forums** with community leadership, residents, and interested stakeholder groups to define local issues, review the community’s pedestrian crash data, and identify / prioritize the locations of primary risk and need.
2. Facilitate an infrastructure **Site Safety Review** with municipal staff and other interested parties, in which the top 5 (and in some cases, more) problem locations identified by the community at the *Safety Forum* are analyzed for possible infrastructure changes (e.g. painting crosswalks, changing curb lines, adding refuge islands, adding signs, etc.).

3. Convene and facilitate ***Safer Walking Behavioral Forums*** for community leadership, residents, and interested stakeholder groups that focus on identifying priority problem behaviors, and then brainstorming educational and law enforcement interventions to improve safety for pedestrians.
4. Collaboratively develop with each municipality a community specific ***Pedestrian Safety Action Plan*** (strategy) that incorporates both long-term and short-term alternatives for reducing the number of pedestrian crashes. The potential recommendations are organized according to the classic Safe Routes to School “5 E’s” model: Engineering, Education, Encouragement, Enforcement, and Evaluation. These strategies will address policy, growth, infrastructure, education, outreach, and law enforcement.
5. Collaborate with local law enforcement to implement a ***Pedestrian Safety Enforcement Program*** that supports officers proactively interacting with individuals engaged in behaviors that may put pedestrians at risk. Program supports include technical assistance, education, outreach, handouts, and high-visibility safety items to distribute.

Bath’s Process and Results

Community Pedestrian Safety Forum

The *Community Pedestrian Safety Forum* held in Bath on May 11, 2017, was attended by 31 people, including municipal officials, MaineDOT staff, BCM staff, and the general public. Participants used TurningPoint® real-time polling technology to gather key information from participants, which showed that:

- 60% of participants were from the general public
- 52% described their walking habits as “for exercise and errands”
- 69% said that roadway safety was the combined result of drivers, persons walking, and road design.

At this forum, the following locations were identified as “priority” problem locations needing attention. Locations were identified as the places ranked as “highest” or “high” priority for attention by a majority of the participants.

Priority Locations	% High Priority	Rank	Participant Comments <i>Please Note: Public perceptions may differ from the actual conditions.</i>
Intersection of Washington and Commercial Streets	77.8	1	- Roads seem too wide - Speeding traffic - Crosswalks too long and not visible enough - Roads / crosswalks poorly lit - Signals not present or not working well - Problems with maintenance and condition - Signal needed at bottom of ramp
Intersection of High and Centre Streets	73.7	2	- Speeding traffic - Crosswalks not visible enough - Signals not present or not working well - Problems with maintenance and condition - Lack of ADA features and access - Busy & confusing - Poor sight line for those coming up hill - Court & Centre needs light
Washington Street near Bath Iron Works (BIW)	68.3	3	- Speeding traffic (particularly at 3:30 when BIW workers leave) - No crosswalks - No sidewalks - Crosswalks not visible enough - Roads / crosswalks poorly lit - High volume during shift changes
High Street South of Marshall Street	53.3	4	- Speeding traffic - No sidewalks - Inadequate to bike on
"Five Corners"	32.6	5	- Speeding traffic - No crosswalks - Crosswalks not visible enough - Poor visibility - Busy & confusing - Needs to be a roundabout - Inadequate sidewalks particularly for school kids

Figure 3: Bath's Priority Locations

Site Safety Review

A site visit in Bath occurred on July 13, 2017 during which priority locations were discussed using satellite photos, in person visitation, and local expertise. The site visit included staff from the MaineDOT, BCM and the municipality. Measurements and observations were made during the visit, and conversations regarding problems and possible solutions were held.

Notes from the meeting have been included in the appendices at the end of the document and recommendations are included in the Engineering / Infrastructure section of this report.

Safer Walking Behavioral Forum

On May 23, 2018, 15 residents of Bath joined MaineDOT, BCM, and Bath city staff for a *Safer Walking Behavioral Forum*. At this forum, participants reviewed the priority locations identified in the *Community Pedestrian Safety Forum*, and the behavioral issues (speeding, failure to yield, pedestrian actions) that were associated with each. The group was asked to prioritize the behaviors they identified as most problematic on the part of drivers, bicycle riders (who often came up as problems), and pedestrians. Focused discussions explored potential education strategies and law enforcement efforts to improve behavior. The forum included a call for local champions to advocate for and implement proposed interventions.

The most problematic behaviors identified by Bath residents at this forum were as follows:

- **Most Problematic Pedestrian Behavior:** Crossing at Unmarked Locations
- **Most Problematic Bicycle Behavior:** Riding in Dark Colors After Dark & Riding on Wrong Side of Roadway
- **Most Problematic Motorist Behavior:** Failure to Yield & Speeding

Recommendations from the *Safer Walking Forum* to address pedestrian and motorist behaviors are included in the Education and Enforcement sections of this report. Recommendations to address bicyclist behaviors were not discussed during the forum and therefore no recommendations have been included within this report. The problem behaviors of cyclists is only provided as a forum observation and could be useful for future mitigation efforts.

Bath's Recommendations

This report provides a series of recommendations based on the forums, site visits, examinations of aerial photos, reviews of existing plans and conversations with stakeholders to improve pedestrian safety in Bath.

Please Note: This report does not reflect any recommendations for the area surrounding the new Morse High School. The new high school is located near 171 Congress Ave. and Shipbuilder Way. This facility was permitted and constructed after this meeting was held.

The recommendations are organized according to the classic Safe Routes to School "5 E's" model: Engineering, Education, Encouragement, Enforcement, and Evaluation. Sound engineering is essential to promote encouragement, must align with education, and is necessary to support enforcement efforts.

Recommendations are further organized into timeframes, with "Short Term" meaning <1+ year potential implementation window, "Medium Term" meaning 1-5+ year potential implementation window, and "Long Term" meaning a >5 year potential implementation window. Please note that Short Term and Medium Term mitigations should not necessarily be abandoned after the implementation windows proposed here. Consideration for future implementation and their use should be a routine and on-going community conversation.

The implementation of recommendations throughout this report are dependent upon fiscal and staff resource limitations and will be driven by the project prioritization strategies of MaineDOT and/or the City of Bath.

Engineering

The built environment is an important factor affecting roadway safety, as conditions on the ground will influence the behavior of all users. Historically, many roadways were designed for higher vehicle speeds and shorter travel times. Complete Streets Policies implemented by MaineDOT and many other communities attempt to address the needs of all roadway users by redesigning infrastructure where feasible to reduce vehicle speeds, accommodate bicyclists, and improve pedestrian safety and access.

General Considerations for All Locations

Implementation must be based upon engineering judgement and will be dependent upon the city's priorities and any human and financial resource limitations experienced by either the City of Bath or MaineDOT.

Short Term

- Refresh crosswalk paint at least annually; use high visibility “piano key” or other highly visible style of crossings. (Review **Appendix F – MaineDOT’s Striping Guidance for Municipalities** for additional guidance.)
- Install double-sided pedestrian signage (high intensity yellow or yellow / lime color is recommended) on both sides of non-signalized mid-block crossings to alert drivers of the presence of crosswalks.
- Regularly check signal function and timing.
- Review **Appendix B–MaineDOT’s Crosswalk Policy** and **Appendix C–MaineDOT’s Lane Width and Shoulder Width Engineering Instruction** to ensure that future bicycle and pedestrian improvements comply with existing MaineDOT policies and guidance.
- To help ensure that pedestrian safety needs throughout the municipality are identified and considered, the City of Bath would benefit from continuing to solicit input from their existing BikePed Committee.
- Develop an ongoing **BikePed Maintenance Plan** designed to support the longer-term care of pedestrian and bicycle infrastructure. This plan should incorporate the city’s plans for winter maintenance of the sidewalk network as well as address long-term replacement / reconstruction strategies and the routine repair of such things as curbing, tip-downs, tactile warning devices, vegetation intrusion, etc.
- Implement a municipal policy which stipulates that all alterations to roadways and pedestrian ways will require that the impacted facilities be made ADA compliant to the maximum extent feasible and should comply with MaineDOT’s ADA Design Guidance for pedestrian facilities found here: mainedot.gov/civilrights/ada/.

- Consider programming a leading pedestrian interval (LPI) phase at signalized intersections to reduce the number of potential conflicts between turning vehicles and crossing pedestrians. LPIs give pedestrians a chance to establish themselves in the crosswalk. They also improve driver yielding compliance because drivers see the pedestrians in the crosswalk and will wait until the pedestrian has cleared the lane into which the driver is turning.

Medium Term

- The City of Bath should apply the principles embodied in its local Complete Streets Policy to ensure transportation planning decisions in the city serve non-motorized users, as well as motorized ones. Bath should consider updating its Complete Streets Policy to explicitly define the financial and infrastructure thresholds at which including robust facilities for walkers and persons riding bikes is not feasible. The Bicycle and Pedestrian Coalition of Maine encourages municipalities to include bikeped facilities when doing so accounts for no more than 20% of a project's total cost.
- Upgrade all crossings to ensure compliance with the Americans with Disabilities Act of 1990 (ADA).
- As appropriate, narrow travel lanes on roadways with posted speed limits of 30 mph or less to improve driver speed compliance and create additional opportunities and space for other bicycle and pedestrian improvements such as buffer zones, lighting, esplanades, curb extension, medians, etc. For additional guidance, see **Appendix C – MaineDOT's Lane Width and Shoulder Width Engineering Instruction**.
- Consider installing Rectangular Rapid Flashing Beacons (RRFBs) or other crossing improvements such as "Advance Yield" signage and pavement markings, use of leading pedestrian intervals (LPIs), and/or pedestrian refuge islands at critical crossings.
- Review the information provided in **Appendix E – MaineDOT's Draft Guidelines on Demonstration Projects and Non-Project Related Roadway Changes**. Consider implementing demonstration projects to determine and validate the viability and value of implementing various pedestrian safety improvements within the community.
- Implement and enforce MaineDOT's policy recommendation of a 20-foot minimum parking setback from all crosswalks.

- Since Context Sensitive Solutions and Practical Design are important tools as we create communities that are more pedestrian friendly, MaineDOT has developed guidelines for appropriate traffic calming strategies developed to reduce vehicle speeds, the alternatives that are available, and the limits of their acceptance and use on Maine Roadways. Before embarking on any traffic calming efforts in your community, review **Appendix G – MaineDOT’s Traffic Calming Policy** and discuss the alternatives (such as bump-outs, raised crosswalks, or median islands) with your MaineDOT Region Traffic Engineer and/or MaineDOT’s Active Transportation Planner.
- Review the potential pedestrian safety infrastructure improvements included within MaineDOT’s newly developed **Pedestrian Safety Toolbox** once it is released to the public. Identify opportunities within Bath where new treatments could be incorporated.

Long Term

- Ensure traffic volumes and turning movements warrant channelized right turn lanes. Where warranted, ensure channelized right turn lanes are designed to draw attention to pedestrians in crosswalks.
- Improve access management conditions throughout the city by narrowing large driveway entrances. Access management helps both drivers and pedestrians anticipate where motor vehicles will enter and exit businesses, and minimizes the number of conflict points between pedestrians, bicycles, and motor vehicles. Refer to **Appendix H – Access Management Guidelines** for more information and to determine which alternatives might be appropriate in a given situation.
- In general, retrofit in-city roadways with fewer, narrower travel lanes, to slow traffic and shorten pedestrian crossings.
- Consider lane reductions of 4 lane roads to 3 lanes with a continuous 2-way left-turn lane (Road Diets) and where appropriate, add bike lanes, pedestrian space, medians, esplanades, or other pedestrian improvements to the newly freed space. Review **Appendix D – MaineDOT & FHWA Road Diet Guidance**, to determine if roadways might be candidates for travel lane reduction as part MaineDOT’s statewide Road Diet efforts.
- As outlined within Bath’s Complete Streets Policy, continue to incorporate pedestrian safety needs into all projects while also considering the pedestrian needs of the area surrounding the proposed roadway or development project.

This report also provides specific recommendations that may improve pedestrian safety at the 5 priority locations identified at Bath's *Community Pedestrian Safety Forum* on May 11, 2017.

Those locations are:

- 1) Intersection of Washington and Commercial Streets
- 2) Intersection of High and Centre Streets
- 3) Washington Street near Bath Iron Works (BIW)
- 4) High Street south of Marshall Street
- 5) Five Corners

Engineering recommendations were developed from information gathered during the *Pedestrian Site Safety Review* and are supplemented by recommendations referring to common and ongoing maintenance and construction efforts essential to maintain pedestrian safety.

All mitigation recommendations are based on Federal Highway Administration (FHWA) *Pedestrian Safety Guide and Countermeasure Selection System* at pedbikesafe.org/PEDSAFE/. They comply with the *Manual on Uniform Traffic Control Devices* (MUTCD), and have been reviewed by both MaineDOT and the Federal Highway Administration. Please note that photographs provided in this report are intended to represent the referenced area of concern and do not necessarily include the entire scope of the recommendations provided nor the entire area of identified and described concerns.

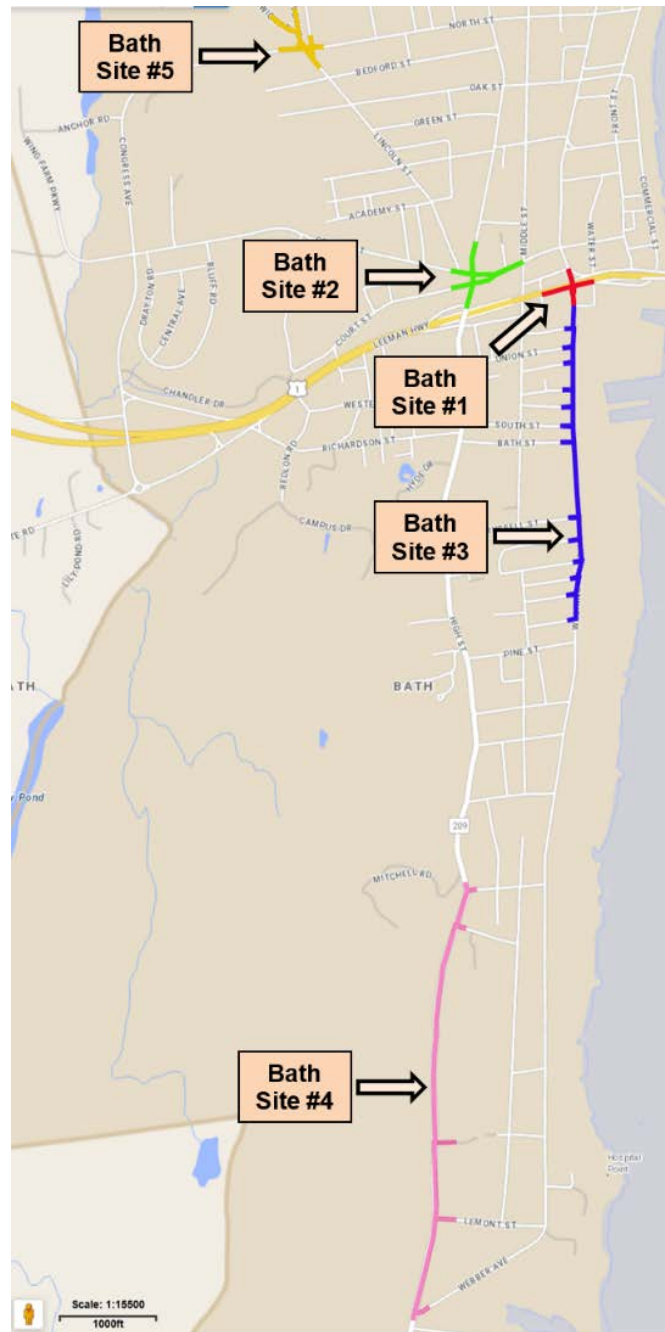


Figure 4: **Locator Map** - Bath's Priority Locations

Specific Engineering Recommendations

Site #1: Intersection of Washington and Commercial Streets



Figure 5: Site #1 - Intersection of Washington and Commercial Streets

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Modify ped signals to improve pedestrian crossing safety	➤ Consider programming a leading pedestrian interval (LPI) phase at signalized intersections to reduce the number of potential conflicts between turning vehicles and crossing pedestrians		Short	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Increase visibility of crosswalks	➤ Complete a field review and safety assessment to determine appropriate ped safety alternatives (signage, locations, sight distance, Accessible Pedestrian Signal, lighting, etc.) ➤ Ensure that crosswalks are painted at least twice annually with the first as early as possible in the spring ➤ Upgrade all crosswalks to have high visibility crosswalk markings (such as retroreflective beads in the paint, wet reflectivity, or a reflective thermoplastic film that meet MaineDOT Minimum Standards found in Appendix F) ➤ Evaluate the appropriateness of utilizing flexible delineators on the white and/or yellow edge lines for some crosswalks in this area ➤ Consider RRFB installations		Short	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Review the action items recommended by the 2018 South End Transportation Study	➤ Identify recommendations included within the <i>South End Transportation Study</i> that could be implemented within this area identified as significant by forum participants ➤ Prioritize recommendations to ensure the most important action items get incorporated into municipal planning ➤ Develop an implementation timeline for all priority actions ➤ Fund prioritized action items for this area as funding is available		Short	City of Bath MaineDOT	
Increase visibility of crosswalks	➤ Evaluate current overhead lighting and consider upgrading to LEDs and expanding the number of luminaires ➤ Install W11-2 double-sided pedestrian signage (high intensity yellow or yellow / lime color is recommended) on both sides of unsignalized midblock pedestrian crossings to alert drivers of the presence of crosswalks		Medium	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Visually narrow travel lanes to help calm traffic	➤ Complete a traffic analysis of this intersection ➤ Utilizing the Lane Width and Shoulder Width Engineering Guidance provided by MaineDOT (Appendix C), determine if lane widths can be narrowed to slow and calm traffic ➤ Explore striping changes and enhancements before and at the crosswalk at the bottom of the ramp to Route 1 ➤ Evaluate the appropriateness of utilizing flexible delineators on the white and/or yellow edge lines for some crosswalks in this area		Medium	City of Bath MaineDOT	
Improve safe pedestrian access	➤ To improve the predictability of vehicle turning movements, consider reducing the size of driveway openings and keep openings as far from the intersections / signals as possible (Refer to Appendix H – Access Management Guidelines for more information)		Medium	City of Bath MaineDOT	
Increase visibility of crosswalks	➤ Consider raised tabletop crossings to help slow and calm traffic (Review MaineDOT's Traffic Calming Policy in Appendix G to help determine if this is feasible and appropriate)		Long	City of Bath MaineDOT	

Objectives are concepts generated through public process*

Site #2: Intersection of High and Centre Streets



Figure 6: Site #2 - Intersection of High and Centre Streets

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Review the action items recommended by the 2018 <i>South End Transportation Study</i>	➤ Identify recommendations included within the <i>South End Transportation Study</i> that could be implemented within this area identified as significant by forum participants ➤ Prioritize recommendations to ensure the most important action items get incorporated into municipal planning ➤ Develop an implementation timeline for all priority actions ➤ Fund prioritized action items for this area as funding is available		Short	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Increase visibility of crosswalks	➤ Complete a field review and safety assessment to determine appropriate ped safety alternatives (signage, locations, sight distance, Accessible Pedestrian Signal, lighting, etc.) ➤ Ensure that crosswalks are painted at least twice annually with the first as early as possible in the spring ➤ Upgrade all crosswalks to have high visibility crosswalk markings (such as retroreflective beads in the paint, wet reflectivity, or a reflective thermoplastic film that meet MaineDOT Minimum Standards found in Appendix F) ➤ Evaluate the appropriateness of utilizing flexible delineators on the white and/or yellow edge lines for some crosswalks in this area ➤ Evaluate the appropriateness of moving the crosswalk at the top of Centre Street Hill slightly to the east to create a shorter crossing distance		Short	City of Bath MaineDOT	
Shorten crossing time for pedestrians	➤ Evaluate the appropriateness of using flexible delineators to create a "curb extension" on the northeast corner of the intersection to slow turning traffic and help drivers see crossing pedestrians		Short	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Increase visibility of crosswalks	➤ Evaluate current overhead lighting and consider upgrading to LEDs and expanding the number of luminaires ➤ Install W11-2 double-sided pedestrian signage (high intensity yellow or yellow / lime color is recommended) on both sides of unsignalized midblock pedestrian crossings to alert drivers of the presence of crosswalks		Medium	City of Bath MaineDOT	
Change Traffic Pattern to Simplify Intersection	➤ Complete a traffic analysis of this roadway segment ➤ Determine if traffic volume and movements warrant existing lane configuration ➤ Consider closing south branch of Centre Street at High Street to simplify intersection and reduce number of road crossings; provide two way access from Centre Street east of the obelisk park		Medium-Long	City of Bath MaineDOT	
Increase visibility of crosswalks	➤ Consider raised tabletop crossings to slow and calm traffic (Review MaineDOT's Traffic Calming Policy in Appendix G to help determine if this is feasible and appropriate)		Long	City of Bath MaineDOT	

Objectives are concepts generated through public process*

Site #3: Washington Street near Bath Iron Works (BIW)

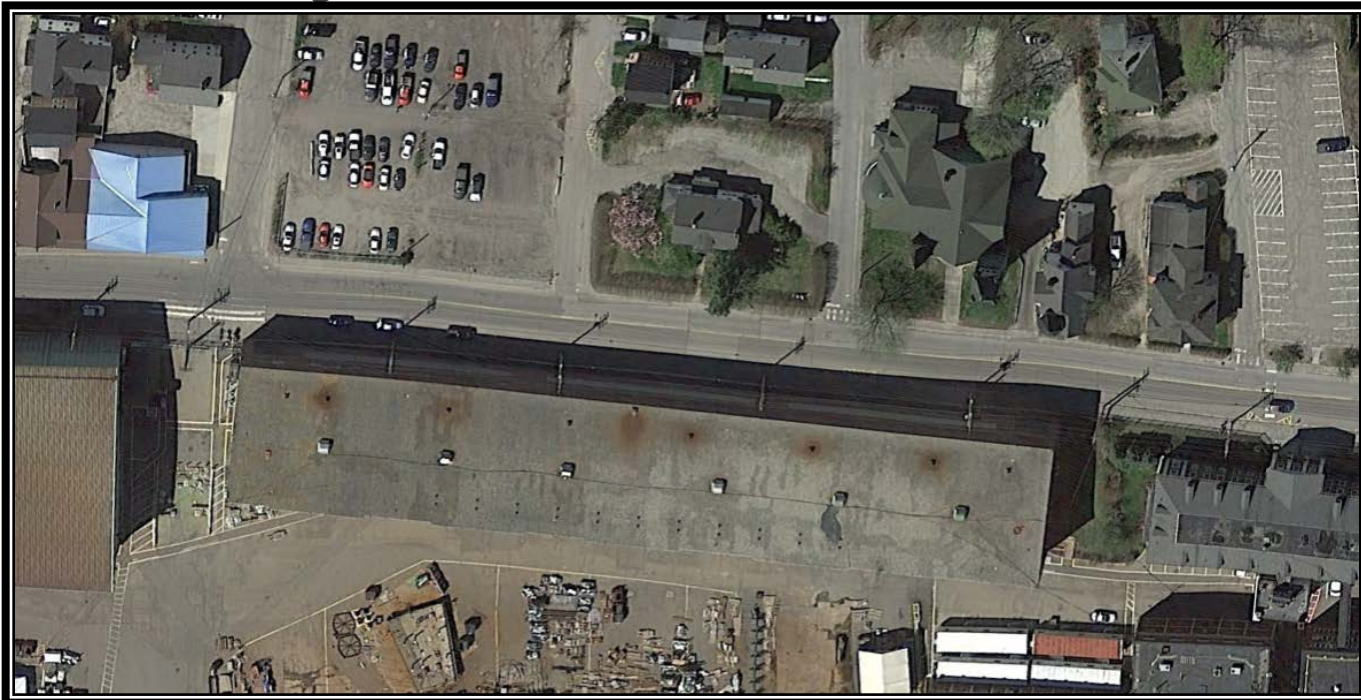


Figure 7: Site #3 - Washington Street near Bath Iron Works

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Review the action items recommended by the 2018 South End Transportation Study	➤ Identify recommendations included within the <i>South End Transportation Study</i> that could be implemented within this area identified as significant by forum participants ➤ Prioritize recommendations to ensure the most important action items get incorporated into municipal planning ➤ Develop an implementation timeline for all priority actions ➤ Fund prioritized action items for this area as funding is available		Short	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Increase visibility of crosswalks	➤ Complete a field review and safety assessment to determine appropriate ped safety alternatives (signage, locations, sight distance, Accessible Pedestrian Signal, lighting, etc.) ➤ Ensure that crosswalks are painted at least twice annually with the first as early as possible in the spring ➤ Upgrade all crosswalks to have high visibility crosswalk markings (such as retroreflective beads in the paint, wet reflectivity, or a reflective thermoplastic film that meet MaineDOT Minimum Standards found in Appendix F) ➤ Evaluate the appropriateness of utilizing flexible delineators on Washington Street's white edge lines		Short	City of Bath MaineDOT	
Increase visibility of crosswalks	➤ Evaluate current overhead lighting and consider upgrading to LEDs and expanding the number of luminaires ➤ Install W11-2 double-sided pedestrian signage (high intensity yellow or yellow / lime color is recommended) on both sides of unsignalized midblock pedestrian crossings to alert drivers of the presence of crosswalks		Medium	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Improve safe pedestrian access	➤ To improve the predictability of vehicle turning movements, consider reducing the size of driveway openings and keep openings as far from the intersections / signals as possible (Refer to Appendix H – Access Management Guidelines for more information)		Medium	City of Bath MaineDOT	
Lane reconfiguration / narrowing to improve pedestrian safety	➤ Complete a traffic analysis of this roadway segment ➤ Determine if traffic volume and movements warrant existing lane configuration ➤ Utilizing the Lane Width and Shoulder Width Engineering Guidance provided by MaineDOT (Appendix C), determine if lane widths can be narrowed to slow and calm traffic		Medium	City of Bath MaineDOT	
Increase visibility of crosswalks	➤ Consider raised tabletop crossings to slow and calm traffic (Review MaineDOT's Traffic Calming Policy in Appendix G to help determine if this is feasible and appropriate)		Long	City of Bath MaineDOT	

Objectives are concepts generated through public process*

Site #4: High Street South of Marshall Street



Figure 8: Site #4 - High Street South of Marshall Street

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Inform drivers of pedestrian and bicycle activity in area	➤ Complete a field review and safety assessment to determine appropriate ped safety alternatives (signage, locations, sight distance, Accessible Pedestrian Signal, lighting, etc.) ➤ Consider adding W11-15 Pedestrian yellow diamond signs on both sides of High Street with yellow rectangle custom warning sign reading "Trail Crossing" near Lily Pond Community Forest Trailhead		Short	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Add locations for safe crossing of High Street	➤ Complete traffic safety study ➤ Consider adding ADA compliant landings and short sidewalk segments to access Lily Pond Community Forest ➤ Consider adding an RRFB at proposed crosswalk		Medium	City of Bath MaineDOT	
Improve safe pedestrian access to Washington Street	➤ Consider extending sidewalk from Marshall Street to Getchell Street ➤ Consider extending sidewalk from Marshall Street to Graffam Way ➤ Consider utilizing an MPI to improve drainage and add shoulder space for bikes and peds.		Long	City of Bath MaineDOT	

Objectives are concepts generated through public process*

Site #5: "Five Corners" - Intersection of Oak Grove, Lincoln, Congress, North and Old Brunswick Roads



Figure 9: Site #5 - "Five Corners" Intersection

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Expand Safe Pedestrian Access for Students	➤ Consider identifying and marking a priority route for student traffic through this intersection		Short	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Increase Visibility of Crosswalks	➤ Complete a field review and safety assessment to determine appropriate ped safety alternatives (signage, locations, sight distance, Accessible Pedestrian Signal, lighting, etc.) ➤ Ensure that crosswalks are painted at least twice annually with the first as early as possible in the spring ➤ Upgrade all crosswalks to have high visibility crosswalk markings (such as retroreflective beads in the paint, wet reflectivity, or a reflective thermoplastic film that meet MaineDOT Minimum Standards found in Appendix F) ➤ Evaluate the appropriateness of utilizing flexible delineators on the white edge lines for some crosswalks in this area		Short	City of Bath MaineDOT	
Improve safe pedestrian access	➤ Evaluate current overhead lighting and consider upgrading to LEDs and expanding the number of luminaires ➤ Consider an RRFB installation ➤ To improve the predictability of vehicle turning movements, consider reducing the size of driveway openings and keep openings as far from the intersections / signals as possible (Refer to Appendix H – Access Management Guidelines for more information)		Medium	City of Bath MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Shorten Crossing Distance and Reduce the Number of Crossings	➤ Complete a traffic analysis of this roadway segment ➤ Determine if traffic volume and movements warrant existing lane configuration ➤ Consider closing slip lane from Oak Grove Road ➤ Consider adding a curb extension to "square up" the intersection		Medium-Long	City of Bath MaineDOT	
Change Traffic Pattern to Simplify Intersection	➤ Complete a traffic analysis of this roadway segment ➤ Determine if traffic volume and movements warrant existing lane configuration ➤ Consider closing short segment of Maple Grove Avenue to simplify intersection (truck traffic would need to be informed of traffic change) ➤ Work with MaineDOT to identify an alternative Truck Route through this area ➤ Consider a single-lane roundabout to improve traffic flow and better define pedestrian movements		Long	City of Bath MaineDOT	

Objectives are concepts generated through public process*

Education

Education is an essential component of pedestrian safety. According to *Countermeasures that Work* (2018), consistency and repetition in traffic safety educational efforts, coupled with real world practice, are critical for moving people from knowledge changes to behavioral changes, particularly with school-age populations. A need to better educate pedestrians and drivers on how to safely use Maine's roadways and traffic infrastructure was identified as a need in all 21 Focus Communities, including Bath.

The most problematic behavior identified (by type) by Bath residents at the *Safer Walking Forum* held on May 23, 2018 were as follows:

- **Most Problematic Pedestrian Behavior:** Crossing at Unmarked Locations
- **Most Problematic Bicycle Behavior:** Riding in Dark Colors After Dark & Riding on Wrong Side of Roadway
- **Most Problematic Motorist Behavior:** Failure to Yield & Speeding

Because driver and pedestrian safety education is a statewide need, we have also provided general education recommendations to address these common needs. Specific education recommendations to address problem behaviors were suggestions from community members participating in the *Safer Walking Forum*.

Recommendations for all 21 Focus Communities

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Provide Lunch and Learns to businesses, community organizations, and at public events to emphasize safe behavior	➤ Work with BCM and MaineDOT to identify priority messaging ➤ Develop a presentation outline for each priority message ➤ Identify and train potential facilitators ➤ Send informational materials on the Lunch and Learn Program to area businesses and community groups ➤ Contact potential groups to schedule an event		Short	City of Bath BCM MaineDOT	
Get local schools more involved in free Safe Routes to School (SRTS) education programming offered by MaineDOT / BCM	➤ Request information from the Bicycle Coalition of Maine (BCM) on the SRTS Program ➤ Municipal and school leadership meet to discuss the benefits of participation ➤ Request a BCM site visit to discuss participation in the program ➤ Schedule an introductory SRTS event at a local school ➤ Work to institutionalize traffic safety education as part of every student's education		Short	City of Bath RSU #1 BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Consider “point of use” educational resources that would help people follow best practices for pedestrian behavior (e.g. midblock stencils reading “Use the Crosswalk!” or signs for drivers saying “Respect our Neighborhood, Slow Down” etc.)	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Short	City of Bath BCM MaineDOT	
Create walking school buses or “safety clubs” that also teach best practices to school children	➤ Request information from the Bicycle Coalition of Maine (BCM) on the Walking School Bus Program ➤ Municipal and school leadership meet to discuss the benefits of participation ➤ Request a BCM site visit to discuss participation in the program ➤ Schedule an introductory Walking School Bus event at a local school		Medium	City of Bath RSU #1 BCM	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Create an educational campaign directed toward adults	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath BCM MaineDOT	
Create a local social marketing campaign using fliers, conventional media, and social media to educate the community about driving safely around vulnerable users	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Because 48% of all reported pedestrian crashes nationally involve drug and/or alcohol impairment of either the driver or the pedestrian, develop outreach materials and programs on the safety risks of impairment from drugs and alcohol use	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath RSU #1 BCM MaineDOT	
Develop and coordinate a “Walk & Bike Brightly” campaign	➤ Research existing Walk & Bike Brightly Campaigns including their strategies and content ➤ Meet with BCM to learn about what they are doing in other Maine communities ➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify potential target audiences and the potential delivery methods ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath RSU #1 BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Create a local social marketing campaign using fliers, conventional media, and social media to educate the community on strategies for biking and walking safely	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath BCM MaineDOT	
Create a “Push the Button” campaign for the use of Rectangular Rapid Flashing Beacons	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify the target audience, how the content should be delivered, and the distribution strategy ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath BCM MaineDOT	

Objectives are concepts generated through public process*

Recommendations for Crossing at Unmarked Locations

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Use dynamic messaging boards to remind walkers to cross in marked crosswalks, to “stop, look and wave” before crossing, use reflective materials and remind drivers to slow down and watch out for pedestrians and vulnerable users	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify various high-visibility locations within the municipality where the signs can be safely located ➤ Consider “event based” targeted messaging such as for holidays and when school resumes		Short	City of Bath BCM MaineDOT	
Develop and provide presentations and resources to teach people about the safety benefits of safe crossing behaviors	➤ Work with BCM and MaineDOT to identify priority messaging content, including developing presentations / resources for a “stop, look and wave” social marketing campaign ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify local champions to help develop, implement, and promote the program, such as the Lower Kennebec River Livable Communities or the Bath Bike-Ped Committee ➤ Build local energy and support for the program		Short	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Get schools more involved in free SRTS education programming offered by MaineDOT / BCM	➤ Identify which K-8 Schools in the municipality are not currently participating in SRTS Programming ➤ Request SRTS information and presentations from the Bicycle Coalition of Maine (BCM) ➤ Work with BCM and MaineDOT to identify prioritized program areas ➤ Share information and resources developed for the municipality during MaineDOT's Heads Up Project ➤ Identify potential target audiences and the potential delivery methods ➤ Identify local champions to help develop, implement, and promote the program ➤ Convene a meeting between city staff and key school staff (principal, resource officer, physical education, school board, etc.) for all schools serving children in grades K-8 to discuss the benefits of participation ➤ Invite BCM to provide a program overview and potential program activities during the meeting ➤ Schedule an introductory SRTS event at a local school ➤ Schedule at least one SRTS event per elementary / middle school annually		Short	City of Bath RSU #1 BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Distribute safe crossing information along with highly reflective and actively lit materials at Lunch and Learns, community events, schools, etc.	➤ Obtain highly reflective and actively lit pedestrian safety materials from MaineDOT and BCM ➤ Distribute safety information and materials at community events as appropriate, such as at Bath Iron Works, Wellness Fairs, Maine Street Bath events and other venues		Short	City of Bath RSU #1 BCM MaineDOT	
Create a local social marketing campaign using dynamic messaging boards, fliers, conventional media, and social media to educate about pedestrians using safe crossing behaviors, being visible and motorists slowing down and watching out for other users	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, who the target audience will be, and which social media platform(s) to use to reach this audience ➤ Submit regular column in the <i>Times Record</i> local newspaper ➤ Consider using "Safety Sturgeon" or "The Shipbuilders" as "spokespersons" for crosswalk safety ➤ Explore the benefits and added value of utilizing a social media consultant		Medium	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
During warning stops, have police officers distribute educational materials developed by the Heads Up Pedestrian Safety Project	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, who the target audience will be, and under what situations the materials would be distributed ➤ Obtain highly reflective and actively lit pedestrian safety materials from MaineDOT and BCM ➤ Distribute select information and safety materials as appropriate ➤ Build local energy and support for the program		Medium	City of Bath BCM MaineDOT	
Provide ongoing education on the importance of safe street crossing behaviors	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify potential target audiences and the potential delivery methods ➤ Identify which messages should be developed first and under what situations the materials would be distributed ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Long	City of Bath RSU #1 BCM MaineDOT	

Objectives are concepts generated through public process*

Recommendations for Failure to Yield

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Teach people of their duty to yield at marked crosswalks and to generally slow down and be attentive at Lunch and Learns, community events, in schools, etc.	➤ Work with BCM and MaineDOT to identify priority messaging ➤ Develop a presentation outline for each priority message ➤ Identify and train potential facilitators ➤ Send informational materials on the Lunch and Learn Program to area businesses and community groups ➤ Contact potential groups to schedule an event, e.g. Lower Kennebec River Livable Communities, Bath Iron Works, Maine Street Bath or the Bath Bike-Ped Committee, etc.		Short	City of Bath RSU #1 BCM MaineDOT	
Use dynamic messaging boards to remind drivers of their duty to yield at marked crosswalks and to generally slow down, be attentive and watch out for pedestrians and other vulnerable users	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify various high-visibility locations within the municipality where the signs can be safely located ➤ Consider “event based” targeted messaging such as for holidays and when school resumes		Short	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Create a local social marketing campaign using dynamic messaging boards, fliers, conventional media, and social media on the consequences of failing to yield	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath BCM MaineDOT	
Create a “Bath Waves” campaign encouraging peds and drivers to acknowledge seeing each other with a wave before crossing	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify potential target audiences and the potential delivery methods ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Create a “Phones Down - Heads Up” campaign to encourage people not to use phones while driving or walking	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify potential target audiences and the potential delivery methods ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath BCM MaineDOT	
Provide ongoing education around failure to yield via road signs, ongoing educational campaigns at schools and worksites, etc.	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify potential target audiences and the potential delivery methods ➤ Identify which messages should be developed first and under what situations the materials would be distributed ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Long	City of Bath RSU #1 BCM MaineDOT	

Objectives are concepts generated through public process*

Recommendations for Speeding

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Teach people of their duty to obey the speed limit and be attentive at Lunch and Learns, community events, in schools, etc.	➤ Work with BCM and MaineDOT to identify priority messaging ➤ Develop a presentation outline for each priority message ➤ Identify and train potential facilitators ➤ Send informational materials on the Lunch and Learn Program to area businesses and community groups ➤ Contact potential groups to schedule an event, e.g. Lower Kennebec River Livable Communities, Bath Iron Works, Main Street Bath or the Bath Bike-Ped Committee, etc.		Short	City of Bath RSU #1 BCM MaineDOT	
Use dynamic messaging boards to remind drivers of their duty to obey the speed limit, be attentive and watch out for pedestrians and other vulnerable users	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify various high-visibility locations within the municipality where the signs can be safely located ➤ Consider “event based” targeted messaging such as for holidays and when school resumes		Short	City of Bath RSU #1 BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Create a local social marketing campaign using dynamic messaging boards, fliers, conventional media, and social media on the consequences of speeding	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Medium	City of Bath BCM MaineDOT	
Provide ongoing education around speeding via road signs, ongoing educational campaigns at schools and worksites, etc.	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify potential target audiences and the potential delivery methods ➤ Identify which messages should be developed first and under what situations the materials would be distributed ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Long	City of Bath BCM MaineDOT	

Objectives are concepts generated through public process*

Encouragement

The PL Jacobsen study published in the *Journal of Injury and Prevention* in 2003, concludes that where there are more people walking or bicycling, there are fewer crashes. This study, sometimes referred to as the “Safety in Numbers” study, suggests that encouragement activities to get more people walking (and biking) are important to promoting overall community safety, because the more people who are walking, the safer conditions become.

Encouragement activities can take many forms, and may include not only programmatic efforts (e.g. Walking School Buses), but also activities in the realms of policy and the built environment. Indeed they must go together - efforts to encourage people to walk in a built environment that is not supportive of pedestrian mobility are unlikely to change behavior.

Recommendations for all 21 Focus Communities

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Sponsor Walk to School and Walk to Work Days	➤ Request <i>Walk to School / Walk to Work</i> information from the Bicycle Coalition of Maine (BCM) ➤ Identify local champions to help develop, implement, and promote the program ➤ Share information and resources developed for the municipality during MaineDOT’s Heads Up Project ➤ Convene a meeting of municipal staff and local champions to plan, schedule and deliver the event ➤ Schedule at least one event annually		Short	City of Bath RSU #1 BCM	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Get local schools more involved with MaineDOT's / BCM's free Safe Routes to School Program and its encouragement activities	➤ Identify which K-8 Schools in the municipality are not currently participating in SRTS Programming ➤ Request SRTS information from the Bicycle Coalition of Maine (BCM) ➤ Work with BCM and MaineDOT to identify prioritized program areas ➤ Share information and resources developed for the municipality during MaineDOT's Heads Up Project ➤ Identify potential target audiences and the potential delivery methods ➤ Identify local champions to help develop, implement, and promote the program ➤ Convene a meeting between city staff and key school staff (principal, resource officer, physical education, school board, etc.) for all schools serving children in grades K-8 to discuss the benefits of participation ➤ Invite BCM to provide a program overview and potential program activities during the meeting ➤ Schedule an introductory SRTS event at a local school ➤ Schedule at least one SRTS event per elementary / middle school annually		Short	City of Bath RSU #1 BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
To engage businesses, develop an outreach campaign with presentations and resources celebrating the benefits of more foot and bike traffic	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify potential target audiences and the potential delivery methods ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program ➤ Deliver the program		Short	City of Bath BCM MaineDOT	
Sponsor “People in the Streets” events where a local street is open only to pedestrians	➤ Request <i>People in the Streets</i> event information from the Bicycle Coalition of Maine (BCM) ➤ Identify local champions to help develop, implement, and promote the program ➤ Share information and resources developed for the municipality during MaineDOT’s Heads Up Project ➤ Convene a meeting of municipal staff and local champions to plan, schedule and deliver the event ➤ Schedule at least one event annually		Medium	City of Bath BCM	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Create streetscapes that are more attractive and supportive of pedestrian use	➤ Budget for a streetscape improvement planning project ➤ Work with MaineDOT and BCM to identify potential locations and strategies to improve local streetscapes ➤ Hire a consultant to develop a streetscape improvement plan ➤ Budget for the implementation of the recommendations developed during the streetscape improvement planning project ➤ Implement at least one of the recommendation developed during the streetscape improvement planning process		Long	City of Bath BCM MaineDOT	

Objectives are concepts generated through public process*

Enforcement

More enforcement of the laws governing the legal use of roads on the part of pedestrians and drivers was identified as a need in all 21 Focus Communities, including Bath.

According to the 2014 National Highway Transportation Safety Administration (NHTSA) publication *Pedestrian Safety Enforcement Operations: A How To Guide*, "Enforcement of pedestrian safety laws has typically been minimal, even though compliance with these laws is low." Increased enforcement activity may improve the behavior of both drivers and pedestrians.

Enforcement recommendations address common enforcement opportunities in all communities. Specific enforcement recommendations are community suggestions that address problem behaviors identified at the *Safer Walking Forum*.

The most problematic behaviors for pedestrians identified (by type) by Bath residents at the *Safer Walking Forum* held on May 23, 2018 were as follows:

- **Most Problematic Pedestrian Behavior:** Crossing at Unmarked Locations
- **Most Problematic Motorist Behavior(s):** Failure to Yield and Speeding

Recommendations for all 21 Focus Communities

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Use dynamic messaging boards to remind drivers to put down their phones, slow down and watch out for pedestrians and other vulnerable users	➤ Work with BCM and MaineDOT to identify priority messaging content ➤ Identify potential target audiences and the potential delivery methods ➤ Identify local champions to help develop, implement, and promote the program ➤ Build local energy and support for the program		Short	City of Bath BCM MaineDOT	
Utilize Maine Bureau of Highway Safety (BHS) grant funding to enhance enforcement of distracted driving laws in support of vulnerable user safety	➤ Fully define the Distracted Driving problem within the local community and develop a local intervention strategy to address the issues ➤ Refine and clarify the program's goals and objectives ➤ Develop an implementation timeline ➤ Determine the municipality's strategy for evaluating the effectiveness of this intervention strategy ➤ Develop a budget for strategy implementation ➤ Apply annually for BHS Distracted Driving Grant Funding ➤ Update information as needed, but at least annually		Short	City of Bath BCM Bureau of Highway Safety MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Utilize Maine Bureau of Highway Safety grant funding to enhance enforcement of pedestrian crossing laws	➤ Identify the problems / challenges and define why pedestrian crossing laws need additional enforcement within the local community ➤ Develop a local intervention strategy to address the issues ➤ Refine and clarify the program's goals and objectives ➤ Develop an implementation timeline ➤ Determine the municipality's strategy for evaluating the effectiveness of this intervention strategy ➤ Develop a budget for strategy implementation ➤ Apply annually for BHS Pedestrian Safety Grant Funding ➤ Update information as needed, but at least annually		Short	City of Bath BCM Bureau of Highway Safety MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Utilize Maine Bureau of Highway Safety grant funding to enhance enforcement of pedestrian and bicycle laws	➤ Identify the problems / challenges and define why pedestrian and bicycle laws need additional enforcement within the local community ➤ Develop a local intervention strategy to address the issues ➤ Refine and clarify the program's goals and objectives ➤ Develop an implementation timeline ➤ Determine the municipality's strategy for evaluating the effectiveness of this intervention strategy ➤ Develop a budget for strategy implementation ➤ Apply annually for BHS Pedestrian Safety Grant Funding ➤ Update information as needed, but at least annually		Short	City of Bath BCM Bureau of Highway Safety MaineDOT	
Investigate all reports of aggressive or negligent motor vehicle operation	➤ Create and promote a process for community members to report concerns on motor vehicle operation ➤ Validate and prioritize all reports received ➤ Investigate all reports		Short	City of Bath	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Law enforcement will distribute appropriate state-wide resources developed by the <i>Heads Up Pedestrian Safety Project</i>	➤ Identify which resources developed by the community, MaineDOT, and/or BCM would be appropriate for law enforcement to distribute and under what circumstances ➤ Identify if the municipality would like to implement a seasonal or thematic calendar where specific issues are highlighted at different times of the year and develop if appropriate ➤ Develop a local policy that outlines the appropriate times and circumstances when it would be appropriate for an officer to distribute each resource item ➤ Ensure that adequate materials and resources are printed and available to every officer		Short	City of Bath BCM Bureau of Highway Safety MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Continue to make enforcement of laws protecting vulnerable users a departmental / municipal priority	➤ Provide BCM vulnerable user in-service training to every member of the municipal police department ➤ Encourage officers to enforce vulnerable user laws through stops, citations, and warnings ➤ Ensure that all crashes involving pedestrians include detailed and specific crash information ➤ Ensure that vulnerable user laws are enforced across all user groups (bicyclists, pedestrians, drivers) ➤ Raise local awareness of the municipality's enhanced enforcement strategy through the local media, print, and social media outreach efforts		Medium	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Develop and distribute ongoing community specific resources appropriate for distribution by law enforcement	➤ Identify which community specific resources would be appropriate for law enforcement to distribute and under what circumstances ➤ Work with BCM and MaineDOT to identify community specific priority messaging content ➤ Identify which messages should be developed first, how they should be delivered, and who the target audience will be ➤ Identify if the municipality would like to implement a seasonal or thematic calendar where specific issues are highlighted at different times of the year and develop if appropriate ➤ Develop a local policy that outlines the appropriate times and circumstances when it would be appropriate for an officer to distribute each resource item ➤ Ensure that adequate materials and resources are printed and available to every officer		Medium	City of Bath BCM Bureau of Highway Safety MaineDOT	

Objectives are concepts generated through public process*

Recommendations for Crossing at Unmarked Locations

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Continue to Enforce Existing Pedestrian Laws	➤ Assign more officers to bike or foot patrol downtown to enable community policing and education ➤ Conduct enforcement operations targeting pedestrians who fail to yield to vehicular traffic at unmarked locations as required by state law		Short	City of Bath	
Improve Pedestrian Visibility – Have police officers provide reflective materials provided by the Heads Up Pedestrian Safety Project to persons walking after dark	➤ Identify which resources (reflective strips or slap-bands) would be appropriate for law enforcement to distribute and under what circumstances ➤ Develop a local policy that outlines the appropriate times and circumstances when it would be appropriate for an officer to distribute each resource item ➤ Request highly-reflective materials from MaineDOT ➤ Ensure that adequate materials and resources are available to every officer		Short	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Encourage Use of Safe Crossing Locations	➤ Identify locations of particular danger due to sight lines and speed and work to discourage crossing at such sites ➤ Conduct enforcement operations against drivers who fail to yield at marked crosswalks to build confidence in the relative safety of marked locations ➤ Consider studying high volume unmarked crossing locations for possible marked crosswalk installation		Medium	City of Bath BCM MaineDOT	
Have police officers conduct community education sessions at schools and worksites on pedestrian safety, emphasizing the relative safety of marked locations	➤ Work with BCM and MaineDOT to identify priority messaging ➤ Develop a presentation outline for each priority message ➤ Identify and train officers to be potential facilitators ➤ Send informational materials on the program to area businesses, schools, and community groups ➤ Contact potential groups to schedule an event		Medium	City of Bath RSU #1 BCM MaineDOT	

Objectives are concepts generated through public process*

Recommendations for Failure to Yield and Speeding

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Improve compliance with state law requiring drivers to yield at marked crosswalks	➤ Conduct periodic driver compliance tests using plain-clothed officers and issue summons as appropriate ➤ Publish reminders in press and on social media channels concerning drivers' obligations to yield to pedestrians in marked crosswalks		Short	City of Bath BCM	
Track all warnings and citations issued during traffic stops to identify chronic offenders	➤ Develop a local policy guiding the process for collecting and tracking all warnings and citations for failure to yield drivers ➤ Determine the local threshold for determining when a driver is classified as a "chronic offender" and what local actions will be taken ➤ Raise local awareness of the municipality's enhanced enforcement strategy through the local media, print, and social media outreach efforts		Medium	City of Bath	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Conduct sustained, high visibility enforcement operations for drivers failing to yield at crosswalks	➤ Fully define the “Failure to Yield” problem within the local community and develop a local intervention strategy to address the issues ➤ Develop a local policy guiding high visibility enforcement operations on drivers failing to yield at crosswalks ➤ Refine and clarify the program’s goals, objectives and metrics ➤ Develop an implementation strategy and timeline ➤ Determine the municipality’s strategy for evaluating the effectiveness of this intervention strategy ➤ Develop a budget for strategy implementation ➤ Apply annually for BHS Vulnerable User Safety Enforcement grants, as available ➤ Raise local awareness of the municipality’s enhanced enforcement strategy through the local media, print, and social media outreach efforts		Medium	City of Bath BCM Bureau of Highway Safety	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Have police officers conduct community education sessions at schools and worksites on pedestrian safety, emphasizing law around yielding and speeding	➤ Work with BCM and MaineDOT to identify priority messaging ➤ Develop a presentation outline for each priority message ➤ Identify and train officers to be potential facilitators ➤ Send informational materials on the program to area businesses, schools, and community groups ➤ Contact potential groups to schedule an event ➤ Consider holding a Vulnerable User Safety Day focusing on information and strategies to improve safety for persons walking and bicycling		Medium	City of Bath BCM	
Conduct Regular Speed Enforcement Details	➤ Use BHS Grants and city funds to make speed enforcement a greater priority ➤ Use dynamic speed displays to encourage drivers to slow down ➤ Consider adopting a zero tolerance policy of stopping cars going over the speed limit ➤ Consider adopting a policy of stopping cars going more than 5 mph over the speed limit because above that, the lethality of crashes increases significantly		Medium	City of Bath BCM Bureau of Highway Safety	

Objectives are concepts generated through public process*

Evaluation

Evaluation of the impact of the mitigation recommendations above can be measured most tangibly in reductions in the frequency and severity of pedestrian crashes.

Recommendations for all 21 Focus Communities

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Count the number of short-term measures identified in this report that are implemented	➤ The municipality will have partially met standard expectation by implementing (within 1 year of receiving this report) at least 1 short-term measure in at least half of all sections ➤ The municipality will have met the minimum standard expectation by implementing (within 1 year of receiving this report) at least 1 short-term measure per section ➤ The municipality will have exceeded the standard expectation by implementing (within 1 year of receiving this report) at least 2 short-term measures per section		Short	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Track the frequency, severity, and causal factors of pedestrian crashes city wide	➤ Annually utilize existing pedestrian crash data (MaineDOT and local) to identify locations, frequency, severity, and causal factors of all pedestrian crashes for the previous 5 years (such as 2015-2020) ➤ Track the number, severity, and causal factors of all pedestrian crashes within the municipality ➤ Annually compare and evaluate all pedestrian crashes within the community with those experienced during the current 5-year period such as 2015-2020 ➤ Evaluate the frequency, severity and causal factors of pedestrian crashes at all locations prioritized by the community during the <i>Heads Up Pedestrian Safety Forums</i> ➤ Evaluate the frequency, severity and causal factors of pedestrian crashes at all locations with more than one pedestrian crash after January 1, 2018 ➤ Request MaineDOT and the Bicycle Coalition of Maine complete an updated Site Safety Review of all locations with multiple pedestrian crashes or recurrent causal factors		Short	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Regularly administer Pedestrian Safety Surveys to community members to track safety knowledge and behaviors over time	➤ Work with BCM and MaineDOT to create an appropriate Pedestrian Safety Survey Instrument that will remain valid over time ➤ Determine desired survey delivery method, sample population, and survey frequency ➤ Administer survey ➤ Track responses and changes over time ➤ Based on survey results, determine what additional efforts may be needed		Short	City of Bath BCM MaineDOT	
Count number of medium-term measures identified in this report that are implemented	➤ The municipality will have partially met standard expectation by implementing (within 5 years of receiving this report) at least 1 medium-term measure in at least half of all sections ➤ The municipality will have met the minimum standard expectation by implementing (within 5 years of receiving this report) at least 1 medium-term measure per section ➤ The municipality will have exceeded the standard expectation by implementing (within 5 years of receiving this report) at least 2 medium-term measures per section		Medium	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Trend line reduction for the frequency and severity of pedestrian crashes city wide and at the locations prioritized by the community	➤ Utilize existing pedestrian crash data (MaineDOT and local) to identify locations, frequency, severity, and causal factors of all pedestrian crashes for the previous 5 years (such as 2015-2020) ➤ Track the number, severity, and causal factors of all pedestrian crashes within the municipality ➤ Compare and evaluate all pedestrian crashes within the community with those experienced during the 2015-2020 5-year period ➤ Evaluate the frequency, severity and causal factors of pedestrian crashes at all locations prioritized by the community during the <i>Heads Up Pedestrian Safety Forums</i> ➤ Determine annually the community's 5-year trend line for all pedestrian crashes and for those at the locations prioritized by the community		Medium	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Count number of long-term measures identified in this report that are implemented	➤ The municipality will have partially met standard expectation by implementing (within 10 years of receiving this report) at least 1 long-term measure in at least half of all sections ➤ The municipality will have met the minimum standard expectation by implementing (within 10 years of receiving this report) at least 1 long-term measure per section ➤ The municipality will have exceeded the standard expectation by implementing (within 10 years of receiving this report) at least 2 long-term measures per section		Long	City of Bath BCM MaineDOT	

Objectives*	Potential Actions	Priority	Time Frame	Responsible Party	Current Status
Trend line reduction for the frequency and severity of pedestrian crashes city wide and at the locations prioritized by the community	➤ Utilize existing pedestrian crash data (MaineDOT and local) to identify locations, frequency, severity, and causal factors of all pedestrian crashes for the previous 5 years (such as 2015-2020) ➤ Track the number, severity, and causal factors of all pedestrian crashes within the municipality ➤ Compare and evaluate all pedestrian crashes within the community with those experienced during the 2015-2020 5-year period ➤ Evaluate the frequency, severity and causal factors of pedestrian crashes at all locations prioritized by the community during the <i>Heads Up Pedestrian Safety Forums</i> ➤ Determine annually the community's 10-year trend line for all pedestrian crashes and for those at the locations prioritized by the community		Long	City of Bath BCM MaineDOT	

Objectives are concepts generated through public process*

Works Cited

Richard, C. M., Magee, K., Bacon-Abdelmoteleb, P., & Brown, J. L. (2018, April). *Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices*, Ninth edition (Report No. DOT HS 812 478). Washington, DC: National Highway Traffic Safety Administration.

PL Jacobsen. "Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Bicycling." *Journal of Injury Prevention* 2003;9:205–209.

NHTSA. *Pedestrian Safety Enforcement Operations: A How To Guide* (DOT HS 812 059 November 2014).