

# ROAD SAFETY AUDIT

Summer Street (Route 53) at Franklin Street and High Street

Duxbury, Massachusetts

February 18, 2022

Prepared through Old Colony MPO FFY 2022 Unified Planning Work Program – Road Safety Audits at Multiple Locations:  
Under Contract with MassDOT



Prepared By:  
Old Colony Planning Council  
70 School Street, Brockton, MA. 02301



# Table of Contents

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## Contents

<b>Background .....</b>	<b>1</b>
<b>Project Data .....</b>	<b>1</b>
<b>Project Location and Description.....</b>	<b>3</b>
<b>Audit Observations and Potential Safety Enhancements.....</b>	<b>6</b>
<b>Summary of Road Safety Audit .....</b>	<b>8</b>

## List of Appendices

- Appendix A. RSA Meeting Agenda
- Appendix B. RSA Audit Team Contact List
- Appendix C. Detailed Crash Data
- Appendix D. Additional Information

## List of Tables

Table 1: Participating Audit Team Members .....	3
Table 2: Estimated Time Frame and Costs Breakdown.....	8
Table 3: Potential Safety Enhancement Summary.....	9

## Background

This Road Safety Audit for Summer Street (Route 53) at Franklin Street and High Street in Duxbury was prepared as part of the Old Colony Metropolitan Planning Organization's (MPO) Road Safety Audits at Multiple Locations project in the MPO's FFY 2022 Unified Planning Work Program. The objective of the Road Safety Audits at Multiple Locations project is to identify known issues and potential improvements that can be implemented at high crash locations in a continuing effort to achieve safety performance targets for reducing serious injuries and fatalities on the regional highway network. Locations were selected through a data driven process as part of the MPO's Safety Management System and consultation with the communities of the Old Colony MPO.

This location was selected as the result of a request from the Town of Duxbury. Despite a previous road safety audit conducted in 2018 and subsequent improvements implemented by the Massachusetts Department of Transportation, crash frequency and severity remained high, and the location continued to be a top priority of the Town's for improving safety.

## Project Data

This Road Safety Audit was held on February 18, 2022. It was done in conjunction with Road Safety Audits for the nearby intersections of Congress Street (Route 14) at Franklin Street, and Route 3A at Route 139. Out of an abundance of caution and respect to health and safety of Audit participants, this Road Safety Audit was conducted virtually through a webinar format. Participants were provided crash data and associated analysis (crash characteristics charts, collision diagrams) prior to the Audit for review, and background traffic data (traffic volumes and travel speeds) along with surrounding land use were discussed during the Audit.

During the audit, crash analysis, land use, and traffic data was discussed. Aerial photographs of the intersection along with ground level photographs were provided.

A four-year crash history from January 1, 2017 through December 31, 2020 was initially analyzed and provided to audit participants. Based on MassDOT and Duxbury Police Department data and reports, there were 32 crashes in this four-year period. Twenty-five, or 78%, of these crashes were angled collisions. Fourteen (44%) of those crashes resulted in personal injury. It was also noted that there was a fatal crash at this location in 2011.

MassDOT's Top Crash Locations data viewer shows that this location was a Highway Safety Improvement Program (HSIP) high-crash cluster location within Old Colony Planning Council's region for the periods 2016-2018 and 2017-2019. MassDOT uses the Equivalent to Property Damage Only (EPDO) methodology, which ranks crash locations based on crash severity in addition to frequency. A high crash cluster is defined as a location at which the

EPDO score falls within the Top 5% of all crash clusters within the boundaries of its respective regional planning agency.

The RSA participants formed a multidisciplinary team representing many fields, including planning, and engineering. A list of RSA attendees is shown in Table 1.

Table 1: Participating Audit Team Members

<b>Audit Team Member</b>	<b>Agency/Affiliation</b>
Peter Buttkus	Duxbury Department of Public Works
Paul Bragna	Duxbury Highway Safety Committee
Chief Stephen McDonald	Duxbury Police Department
Deputy Chief Michael Carbone	Duxbury Police Department
Sergeant Friend Weiller	Duxbury Police Department
State Representative Josh Cutler	Commonwealth of Massachusetts House of Representatives
Cole Angley	Office of State Representative Josh Cutler
Deidre Teehan	Office of State Representative Josh Cutler
Michael Murphy	Office of State Senator Patrick O'Connor
Dakota Delsignore	MassDOT Office of Traffic and Safety Engineering Section
Loussyan Darwich	MassDOT Office of Traffic and Safety Engineering Section
Kevin Fitzgerald	MassDOT Office of Traffic and Safety Engineering Section
James Kummer	MassDOT District Five Projects
Ale Kuncaitis	MassDOT District Five Traffic
Barbara Lachance	MassDOT District Five Projects
Bianca Marshall	MassDOT District Five Traffic
Jason Walters	MassDOT District Five Projects
Mary Waldron	Old Colony Planning Council
Charles Kilmer, AICP	Old Colony Planning Council
Bill McNulty, PTP	Old Colony Planning Council
Ray Guarino	Old Colony Planning Council
Guoqiang Li	Old Colony Planning Council
Shawn Bailey	Old Colony Planning Council
Kyle Mowatt	Old Colony Planning Council

## Project Location and Description

The intersection of Summer Street (Route 53) at Franklin Street is a four-legged unsignalized intersection, with Franklin Street designed as the side street. Both Franklin Street approaches are controlled by STOP signs and a painted stop bar on the pavement.

High Street intersects Summer Street (Route 53) 175 feet north of Franklin Street, arriving at Summer Street at a 30-degree angle. High Street is controlled by a STOP sign.

Route 53 is generally a south to north roadway through Duxbury. Franklin Street is an east-west roadway that connects from Pembroke on the western border of town to Marshfield on the eastern border. High Street runs from southeast to northwest, connecting from Route 53 into Pembroke.

Development around the intersection is low density residential. The area is heavily wooded.

Figure 1 provides an aerial photo of the intersection.

- **Summer Street (Route 53):** Summer Street is a two-lane roadway under jurisdiction of the Massachusetts Department of Transportation (MassDOT), functionally classified as a Minor Arterial. Route 53 is a major arterial in eastern Massachusetts, running north to south from Weymouth to Kingston. There are no sidewalks nor any bicycle accommodations on Summer Street within the study area. The roadway has a special speed regulation stating a speed limit of 45 miles per hour in the study area per Regulation 678-C.
- **Franklin Street:** Franklin Street is a two-lane local road under jurisdiction of the Town of Duxbury, Franklin Street serves as an east-west roadway from Pembroke into Marshfield. Franklin Street does not have sidewalks or any bicycle accommodations. There is a posted 30 MPH speed limit sign on the eastern leg of Franklin Street and 25 MPH sign on the western leg. However neither of these speed limits are supported by a special speed regulation.
- **High Street Street:** High Street Street is a two-lane local road under jurisdiction of the Town of Duxbury, High Street Street serves as an east-west roadway from Route 53 into the Town of Pembroke. High Street does not have sidewalks or any bicycle accommodations. There is a posted 30 MPH speed limit that is not supported by a special speed regulation.

Road Safety Audit—Summer Street (Route 53) at Franklin Street and High Street

Prepared by Old Colony Planning Council



Figure 1: Locus Map

## Audit Observations and Potential Safety Enhancements

**Limited Visibility:** There are several factors limiting visibility at this location. A stockade fence on the southeast corner limits obstructs sight distance, despite evidence of efforts to locate fence well beyond edge of pavement. Similarly, heavy vegetation on the southwest corner restricts sight lines. Curvature of Summer Street (Route 53) south of Franklin Street makes it difficult for both approaching drivers to see the Franklin Street from Route 53 and for drivers entering from Franklin Street to see approaching traffic. A significant vertical curve north of the intersection also inhibits sight distance. Drivers entering from High Street must look back over their shoulder to see approaching traffic from the north.

*Potential Safety Enhancements:*

1. *Mid-Term / Medium Cost: Continue vegetation management efforts and continue work to ensure as much clear zone on southwest corner as possible.*
2. *Mid-Term / High-Cost: Consider tightening corner radii of the intersection.*
3. *Short-Term / Low-Cost: Use advance intersection ahead warning signs on both sides of street, on both approaches of Route 53, along with street name placards to increase awareness of upcoming intersection.*

**Sufficient Stopping Sight Distance Not Available for Prevailing Speeds:** Old Colony Planning Council traffic records indicate the 85<sup>th</sup> percentile speed of traffic on Route 53 in this area ranges between 47 MPH and 53 MPH. Furthermore, the speed limit north of the intersection is 50 MPH, which is reduced to 45 MPH 300 feet from High Street and 500 feet from Franklin Street. This may result in drivers approaching the intersection at high speeds. At these speeds, a driver needs between 400 and 475 feet of sight distance to safely stop before reaching the intersection. Due to the limits on visibility, this stopping sight distance does not appear to be available.

*Potential Safety Enhancements:*

1. *Mid-Term / Medium Cost: Consider traffic calming options for Route 53 to control speed.*
2. *Long-Term / High Cost: Consider reconstructing the intersection with a roundabout to mitigate issue of insufficient stopping sight distance.*
3. *Short-Term / Low Cost: Increase speed enforcement on Route 53.*
4. *Mid-Term / Low Cost: Consider installations of speed feedback signs on Route 53.*

**Rolling stops from High Street:** The soft angle at which High Street comes into Route 53 often results in drivers from High Street failing to come to a complete STOP, often rolling through the



STOP and coming into Route 53 and upon Franklin Street at a high rate of speed. There was suggestion these drivers from High Street failing to stop often catch drivers entering from Franklin Street by surprise.

*Potential Safety Enhancements:*

1. *Short Term / Low Cost: Enhance High Street STOP painting stop bar and enhancing delineation of intersection and travel lanes with high visibility striping.*
2. *Long Term / High Cost: Reconstruct intersection by realigning High Street to meet Route 53 at or near a 90-degree angle.*

**Drivers turning left from Route 53 onto High Street at high rate of speed:** Similar to the issue of drivers failing to stop on the High Street approach, drivers turning left onto High Street from Route 53 northbound often make the turn at a high rate of speed due to the soft alignment.

*Potential Safety Enhancements:*

1. *Long Term / High Cost; Reconstruct intersection by realigning High Street to meet Route 53 at or near a 90-degree angle.*
2. *Short-Term / Low Cost: Implement a left-turn restriction. Reconstruct intersection by bending High Street to meet Route 53 at or near a 90-degree angle*

**Conspicuousness of Route 53 at Franklin Street intersection:** Horizontal curvature of Summer Street south of the intersection and vertical curvature north of the intersection obscure the intersection somewhat from approaching traffic on Route 53. Furthermore, heavy vegetation along Franklin Street may lead to a “tunnel vision effect” on drivers traveling this roadway and may be unaware of upcoming intersection with Route 53. These factors may be responsible in some of the crashes that resulted from failure to stop, or for drivers on Route 53 failing to recognize Franklin Street intersection on time.

*Potential Safety Enhancements:*

1. *Long Term / High Cost: Physically raise Route 53 through intersection to increase conspicuousness of intersection.*
2. *Short Term / Low Cost: Use enhanced advance warning signs on both sides of roadway to increase driver awareness.*
3. *Mid-Term / Medium Cost: Consider installation of a flashing control beacon.*
4. *Long Term / High Cost: Consider reconstructing the intersection with a roundabout .*

**Outdated Non-MUTCD Compliant “STOP AHEAD” signs:** The “STOP Ahead” signs on the Franklin Street approaches are outdated and non-MUTCD compliant.

*Potential Safety Enhancements:*

1. *Replace signs with MUTCD compliant STOP Ahead signage, and place on both sides of roadway.*

**Poor pedestrian accommodations:** While there is a crosswalk across Route 53 with appropriate signage at Franklin Street, it does not connect to sidewalks and none of the roadways include any existing sidewalks. Audit participants noted the crosswalk is rarely used, which may surprise drivers when a pedestrian is present.

*Potential Safety Enhancements:*

1. *Long term / High Cost: Consider adding sidewalks with any planned improvements.*
2. *Mid-Term / Medium Cost: Consider improving visibility of existing crosswalk with pavement markings and the installation of Rectangular Rapid Flashing Beacons (RRFBs).*

**No bicycle accommodations:** The roadways do not include any existing bicycle accommodations.

*Potential Safety Enhancements:*

1. *Long term / High Cost: Consider adding bicycle lanes with any planned improvements.*

## Summary of Road Safety Audit

Based on the review of data, observations of the intersection made in the field, and group discussion, the RSA team identified possible enhancements that could improve safety at the intersection. Further study and design work will need to be conducted to determine the feasibility of improvements. Table 2 summarizes the estimated time frame and costs, and Table 3 summarizes the safety issues, possible enhancements, estimated safety payoff, time frame, cost, and jurisdiction responsibility. Safety payoff estimates are based on engineering judgment and are categorized as low, medium, and high. The time frame is categorized as short-term (<1 year), midterm (1 to 3 years), or long-term (typically >3 years). Long-term improvements are typically considered to be substantial improvements with an expected time frame for implementation greater than 3 years. The costs are categorized as low (<\$10,000), medium (\$10,001 to \$50,000), or high (>\$50,000)."

**Table 2: Estimated Time Frame and Costs Breakdown**

Time Frame		Costs	
Short-Term	<1 Year	Low	<\$10,000
Mid-Term	1-3 Years	Medium	\$10,001-\$50,000
Long-Term	>3 Years	High	>\$50,000

**Table 3: Potential Safety Enhancement Summary**

Safety Issue	Potential Safety Enhancement	Safety Payoff	Time Frame	Cost	Jurisdiction
Limited Visibility	Continue vegetation management. Create as much clear zone as possible on southwest corner of intersection.	High	Short Term	Low	MassDOT
Limited Visibility	Consider tightening corner radii	Medium	Mid-Term	Medium	MassDOT
Limited Visibility	<i>Use advance intersection ahead warning signs on both sides of street, on both approaches of Route 53, along with street name placards to increase awareness of upcoming intersection</i>	High	Short-Term	Low	MassDOT
Sufficient stopping sight distance not available for prevailing speeds	Consider implementation of traffic calming applications on Route 53 to control speed	High	Mid-Term	Medium	MassDOT
Sufficient stopping sight distance not available for prevailing speeds	Consider reconstructing intersection with a roundabout	High	Long Term	High	MassDOT
Sufficient stopping sight distance not available for prevailing speeds	Increased speed enforcement on Route 53	High	Short-Term	Low	MassDOT
Sufficient stopping sight distance not available for prevailing speeds	Installation of speed feedback signs on Route 53	High	Mid-Term	Low	MassDOT
Rolling stops from High Street	Enhance STOP with painted stop bars	Medium	Short-Term	Low	MassDOT
Rolling stops from High Street	Consider realigning intersection.	High	Long Term	High	MassDOT
Northbound drivers turning left onto High Street at high rate of speed	Create left turn restriction from Route 53	Medium	Short-Term	Low	MassDOT

Safety Issue	Potential Safety Enhancement	Safety Payoff	Time Frame	Cost	Jurisdiction
Northbound drivers turning left onto High Street at high rate of speed	Consider realigning intersection	High	Long-Term	High	MassDOT
Conspicuousness of Route 53 at Franklin Street intersection.	Enhance advance warning signage..	Medium	Short Term (Signage) /	Low	MassDOT / Town of Duxbury
Conspicuousness of Route 53 at Franklin Street intersection	Consider installation of overhead flashing beacon	High	Long Term	High	MassDOT
Outdated, non-compliant STOP AHEAD signs	Replace with MUTCD compliant STOP Ahead signs. Place on both sides of roadway.	High	Short Term	Low	Town of Duxbury
Poor Pedestrian Accommodations	Add sidewalks with any future improvements	High	Long Term	High	MassDOT / Town of Duxbury
Poor Pedestrian Accommodations	Increase visibility of existing crosswalk with pavement markings and Rectangular Rapid Flashing Beacons (RRFBs)	High	Mid-Term	Medium	MassDOT
No Bicycle Accommodations	Add bicycle lanes with any future improvements	High	Long Term	High	MassDOT / Town of Duxbury

## Appendix A. RSA Meeting Agenda

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<b>Agenda</b>	<b>Road Safety Audits for Route 53 at Franklin Street and High Street;  Route 14 at Franklin Street; and Route 3A at Route 139,  Duxbury, MA  Friday, February 18, 2022  10:00 AM – 12:00 Noon</b>
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<b>Contact:</b>	Bill McNulty, Old Colony Planning Council (508) 583-1833 ext. 207 wmcnulty@ocpcrpa.org
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<b>Attendees:</b>	Invited Participants Include a Multidisciplinary Team including Duxbury Officials (Chief Elected Officials, DPW, Police, Fire, Administration, Planning), MassDOT, FHWA, Legislative Delegation
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<b>Please Bring:</b>	Thoughts and Suggestions
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<b>Meeting Location:</b>	<b>Virtual Meeting (Zoom):</b> <a href="https://us02web.zoom.us/j/88064332210?pwd=S1BadEM2MzFZbTJtMzlpc2QrT3ZuZz09">https://us02web.zoom.us/j/88064332210?pwd=S1BadEM2MzFZbTJtMzlpc2QrT3ZuZz09</a> <b>Webinar ID:</b> 880 6433 2210 <b>Password:</b> 642581
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<b>10:00 AM</b>	Welcome and Introductions
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<b>10:10 AM</b>	Virtual Road Safety Audits of Summer Street (Route 53) at Franklin Street and High Street; Congress Street (Route 14) at Franklin Street; and Tremont Street (Route 3A) at Church Street and Tremont Street (Route 139) <ul style="list-style-type: none"> <li>• Each Intersection will include: <ul style="list-style-type: none"> <li>○ Review of Traffic Data</li> <li>○ Existing Conditions and Known Challenges</li> <li>○ Identification of Potential Safety Improvements</li> </ul> </li> </ul>
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<b>11:30 AM</b>	Wrap-Up Site Audit; Discussion of Next Steps
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<b>Instructions For Participants:</b>	
<ul style="list-style-type: none"> <li>• Before attending the Road Safety Audit, participants are encouraged to familiarize themselves with the study area, and make note of existing conditions and any deficiencies they observe</li> <li>• All participants will be actively involved in the process throughout. Participants are encouraged to come with thoughts and ideas, but are reminded that the synergy that develops and respect for others' opinions are key elements to the success of the Road Safety Audit process</li> <li>• After the meeting, participants will be asked to comment and respond to the document materials to ensure it is reflective of the Road Safety Audit completed by the multidisciplinary team</li> </ul>	

## Appendix B. RSA Audit Team Contact List

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## Participating Audit Team Members

Date: February 18, 2022      Location: Route 53 at Franklin Street and High Street, Duxbury

Audit Team Members	Agency/Affiliation
Peter Buttkus	Duxbury Department of Public Works
Paul Bragna	Duxbury Highway Safety Committee
Chief Stephen McDonald	Duxbury Police Department
Deputy Chief Michael Carbone	Duxbury Police Department
Sergeant Friend Weiller	Duxbury Police Department
State Representative Josh Cutler	Commonwealth of Massachusetts House of Representatives
Cole Angley	Office of State Representative Josh Cutler
Deidre Teehan	Office of State Representative Josh Cutler
Michael Murphy	Office of State Senator Patrick O'Connor
Dakota Delsignore	MassDOT Office of Traffic and Safety Engineering Section
Loussyan Darwich	MassDOT Office of Traffic and Safety Engineering Section
Kevin Fitzgerald	MassDOT Office of Traffic and Safety Engineering Section
James Kummer	MassDOT District Five Projects
Ale Kuncaitis	MassDOT District Five Traffic
Barbara Lachance	MassDOT District Five Projects
Bianca Marshall	MassDOT District Five Traffic
Jason Walters	MassDOT District Five Projects
Mary Waldron	Old Colony Planning Council
Charles Kilmer, AICP	Old Colony Planning Council
Bill McNulty, PTP	Old Colony Planning Council
Ray Guarino	Old Colony Planning Council
Guoqiang Li	Old Colony Planning Council
Shawn Bailey	Old Colony Planning Council
Kyle Mowatt	Old Colony Planning Council



## Appendix C. Detailed Crash Data

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# Crash Data Summary Table

Summer Street (Route 53) at Franklin Street & High Street, Duxbury, MA  
2017-2020

Crash Diagram Ref #	Crash Date <i>m/d/y</i>	Crash Day	Time of Day	Manner of Collision <i>Type</i>	Light Condition <i>Type</i>	Weather Condition <i>Type</i>	Road Surface <i>Type</i>	Driver Contributing Code <i>Type</i>	Comments
1	3/3/17	Friday	8:23 AM	Sideswipe, opposite direction	Daylight	Clear	Dry	Failed to yield right of way	17DUX-25-AC
2	6/8/17	Thursday	7:32 AM	Angle	Daylight	Clear	Dry	Inattention	17DUX-71-AC
3	6/26/17	Monday	6:03 PM	Angle	Daylight	Clear	Dry	Failed to yield right of way	17DUX-82-AC
4	7/17/17	Monday	5:24 PM	Angle	Daylight	Clear	Dry	Failed to yield right of way	17DUX-102-AC
5	8/8/17	Tuesday	4:15 PM	Angle	Daylight	Clear	Dry	Failed to yield right of way	17DUX-116-AC
6	8/10/17	Thursday	5:19 PM	Angle	Daylight	Clear	Dry	Failed to yield right of way	17DUX-119-AC
7	12/16/17	Saturday	10:48 AM	Angle	Daylight	Clear	Dry	Failed to yield right of way	17DUX-186-AC
8	1/19/18	Friday	1:43 PM	Angle	Daylight	Clear	Dry	No Improper Driving	18DUX-17-AC
9	2/25/18	Sunday	7:39 PM	Angle	Dark - roadway not lighted	Clear	Wet	Failed to yield right of way	18DUX-33-AC
10	5/5/18	Saturday	11:25 AM	Sideswipe, same direction	Daylight	Clear	Dry	Inattention	18DUX-61-AC
11	5/11/18	Friday	3:04 PM	Angle	Daylight	Clear	Dry	Failed to yield right of way	18DUX-69-AC
12	6/20/18	Wednesday	11:16 AM	Rear-end	Daylight	Clear	Dry	Followed too closely	18DUX-92-AC
13	7/14/18	Saturday	12:24 PM	Angle	Daylight	Clear	Dry	Other improper action	18DUX-111-AC
14	9/11/18	Tuesday	8:52 AM	Angle	Daylight	Rain	Wet	Unknown	18DUX-133-AC
15	10/21/18	Sunday	5:20 PM	Angle	Daylight	Clear	Dry	No Improper Driving	18DUX-151-AC
16	11/16/18	Friday	11:56 PM	Angle	Dark, unknown roadway lighting	Clear	Wet	Failed to yield right of way	18DUX-172-AC
17	11/27/18	Tuesday	7:42 AM	Head on	Daylight	Rain	Wet	Made an improper turn	18DUX-177-AC
18	12/4/18	Tuesday	4:19 PM	Angle	Dusk	Clear	Dry	Failed to yield right of way	18DUX-184-AC
19	1/19/19	Saturday	12:39 PM	Angle	Daylight	Cloudy	Dry	Failed to yield right of way	19DUX-10-AC
20	2/22/19	Friday	4:25 PM	Angle	Daylight	Clear	Dry	Disregarded traffic signs, signals, road markings	19DUX-28-AC
21	5/18/19	Saturday	3:37 PM	Angle	Daylight	Clear	Dry	Failed to yield right of way	19DUX-62-AC
22	5/29/19	Wednesday	10:43 AM	Sideswipe, same direction	Daylight	Cloudy	Dry	Inattention	19DUX-72-AC
23	9/5/19	Thursday	12:20 PM	Angle	Daylight	Clear	Dry	Failed to yield right of way	19DUX-131-AC
24	12/4/19	Wednesday	2:23 PM	Angle	Daylight	Clear	Dry	Failed to yield right of way	19DUX-173-AC
25	1/24/20	Friday	6:22 PM	Angle	Dark - lighted roadway	Clear	Dry	Failed to yield right of way	20DUX-9-AC
26	2/14/20	Friday	3:24 PM	Angle	Daylight	Clear	Dry	Operating Vehicle in erratic, reckless, careless, negligent, or aggressive manner	20DUX-17-AC
27	2/15/20	Saturday	9:22 PM	Angle	Dark - lighted roadway	Clear	Dry	Failed to yield right of way	20DUX-19-AC
28	7/10/20	Friday	10:25 AM	Rear-end	Daylight	Clear	Dry	Inattention	20DUX-65-AC
29	9/3/20	Thursday	6:20 PM	Angle	Daylight	Clear	Wet	Disregarded traffic signs, signals, road markings	20DUX-79-AC
30	10/9/20	Friday	2:49 PM	Sideswipe, opposite direction	Daylight	Clear	Dry	Failed to yield right of way	20DUX-84-AC

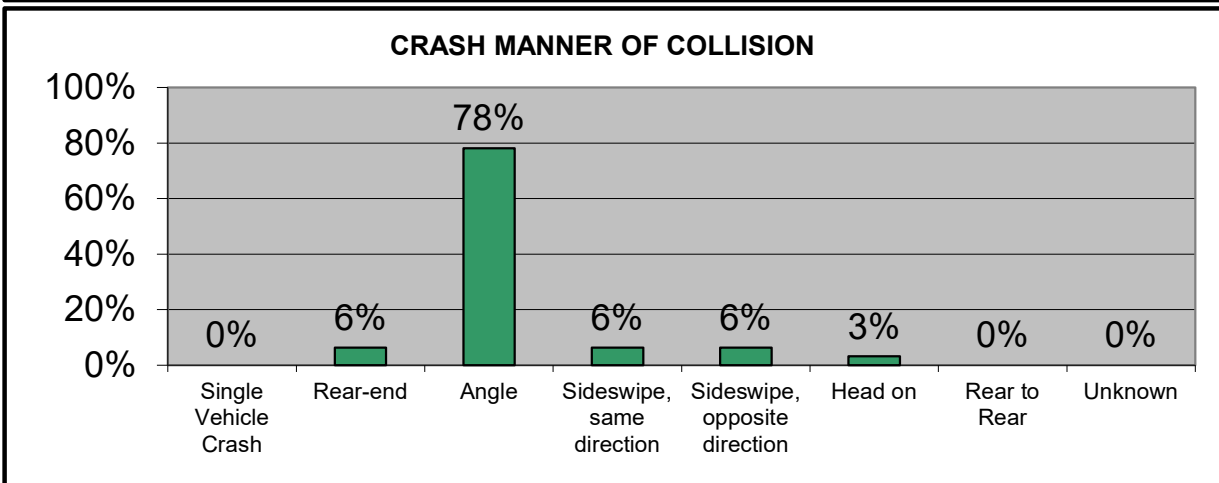
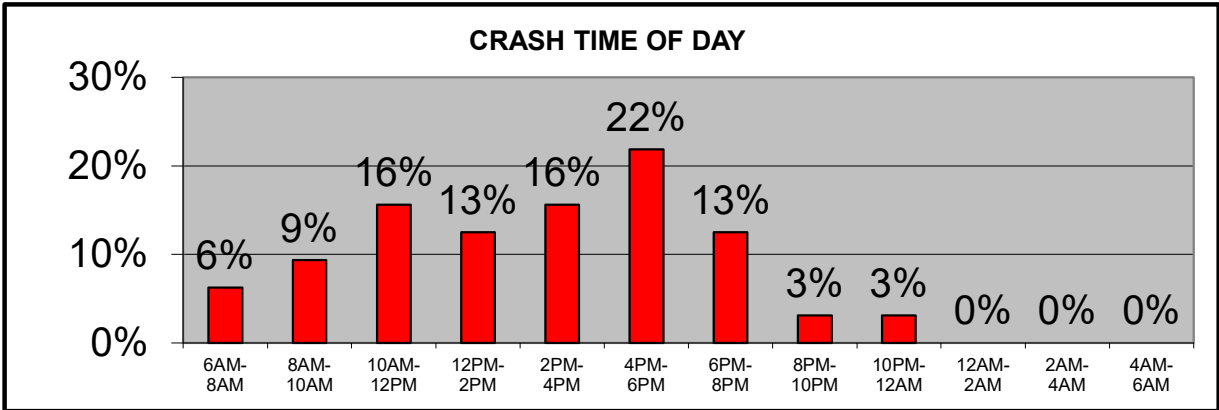
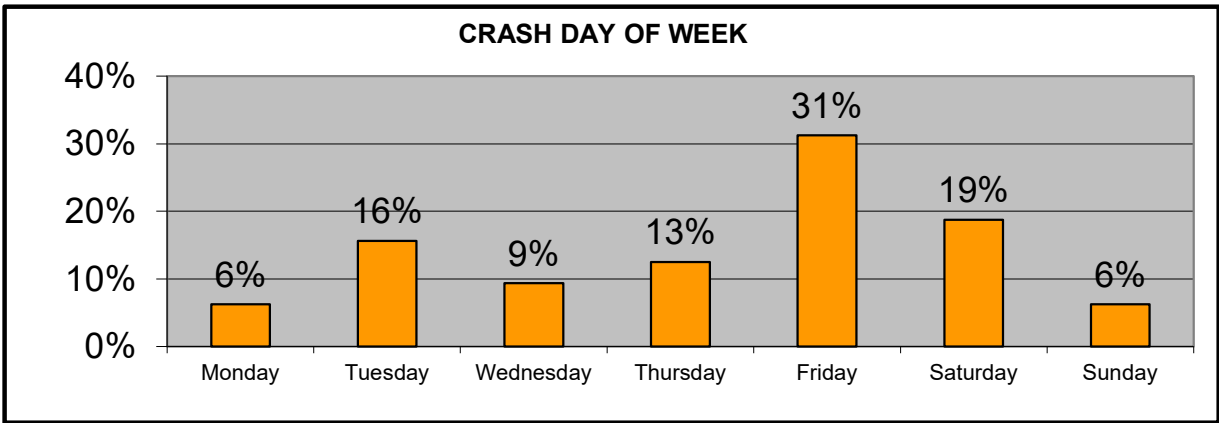
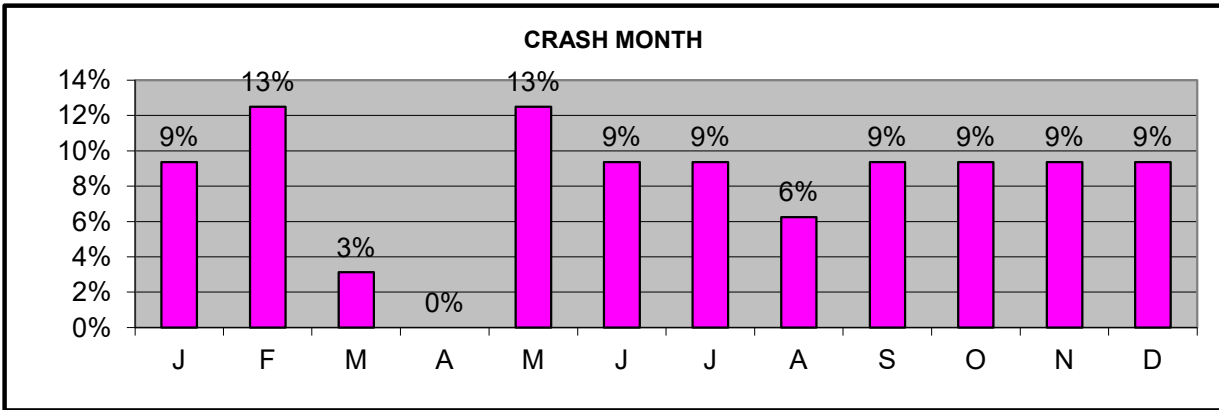
# Crash Data Summary Table

Summer Street (Route 53) at Franklin Street & High Street, Duxbury, MA  
2017-2020

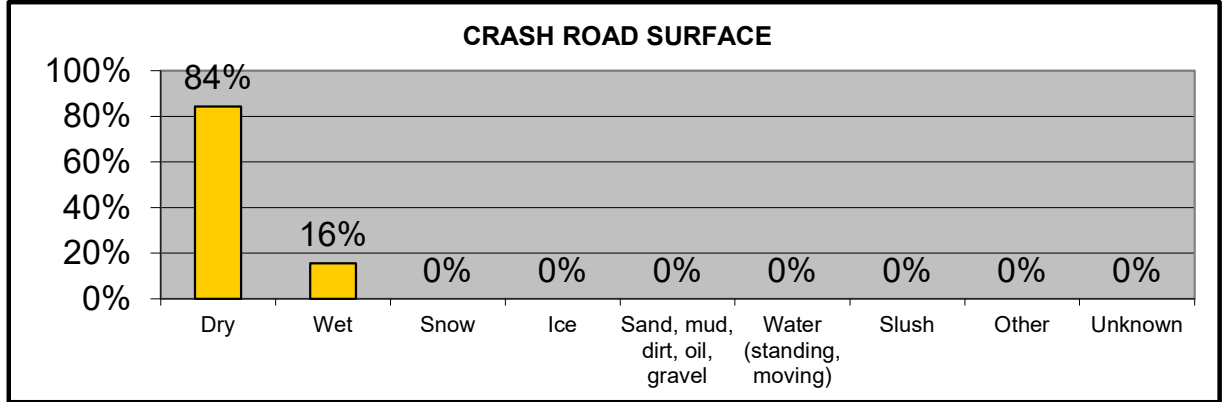
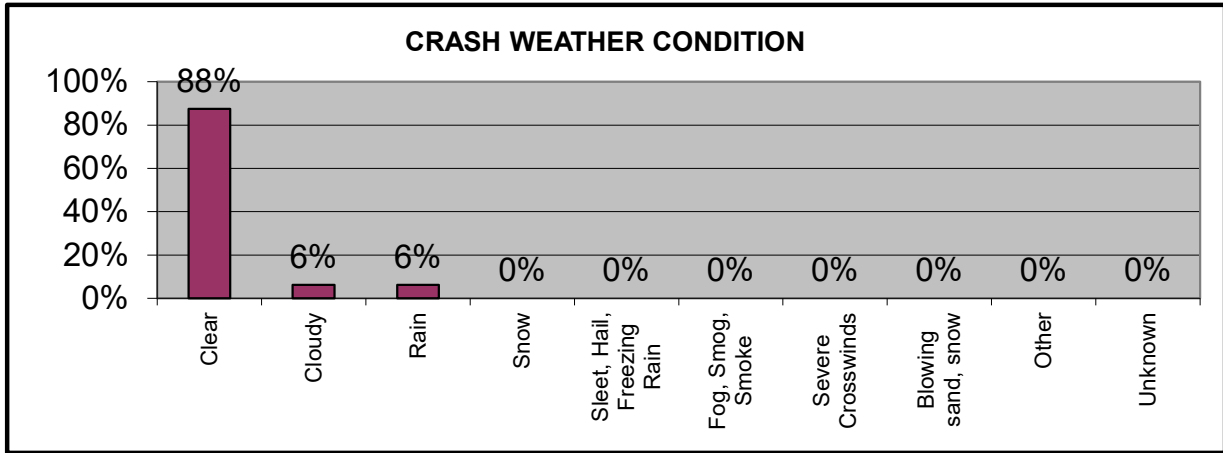
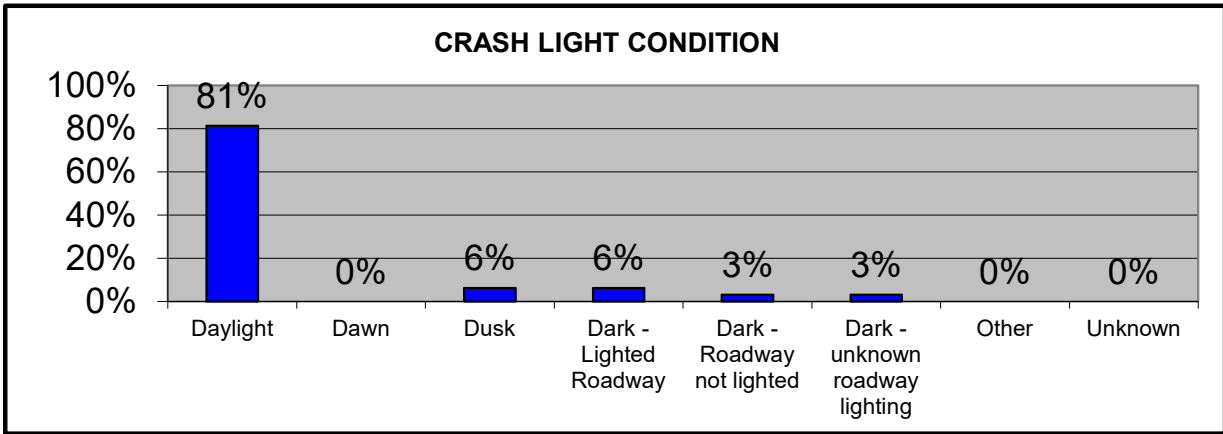
Crash Diagram Ref #	Crash Date <i>m/d/y</i>	Crash Day	Time of Day	Manner of Collision <i>Type</i>	Light Condition <i>Type</i>	Weather Condition <i>Type</i>	Road Surface <i>Type</i>	Driver Contributing Code <i>Type</i>	Comments
31	10/16/20	Friday	9:36 AM	Angle	Daylight	Clear	Dry	Disregarded traffic signs, signals, road markings	20DUX-89-AC
32	11/17/20	Tuesday	4:26 PM	Angle	Dusk	Clear	Dry	Disregarded traffic signs, signals, road markings	20DUX-101-AC

\*Courtesy Crash - A term used to describe a crash that occurs subsequent to a non-involved mainline driver who gives the right of way, contrary to the rules of the road, to

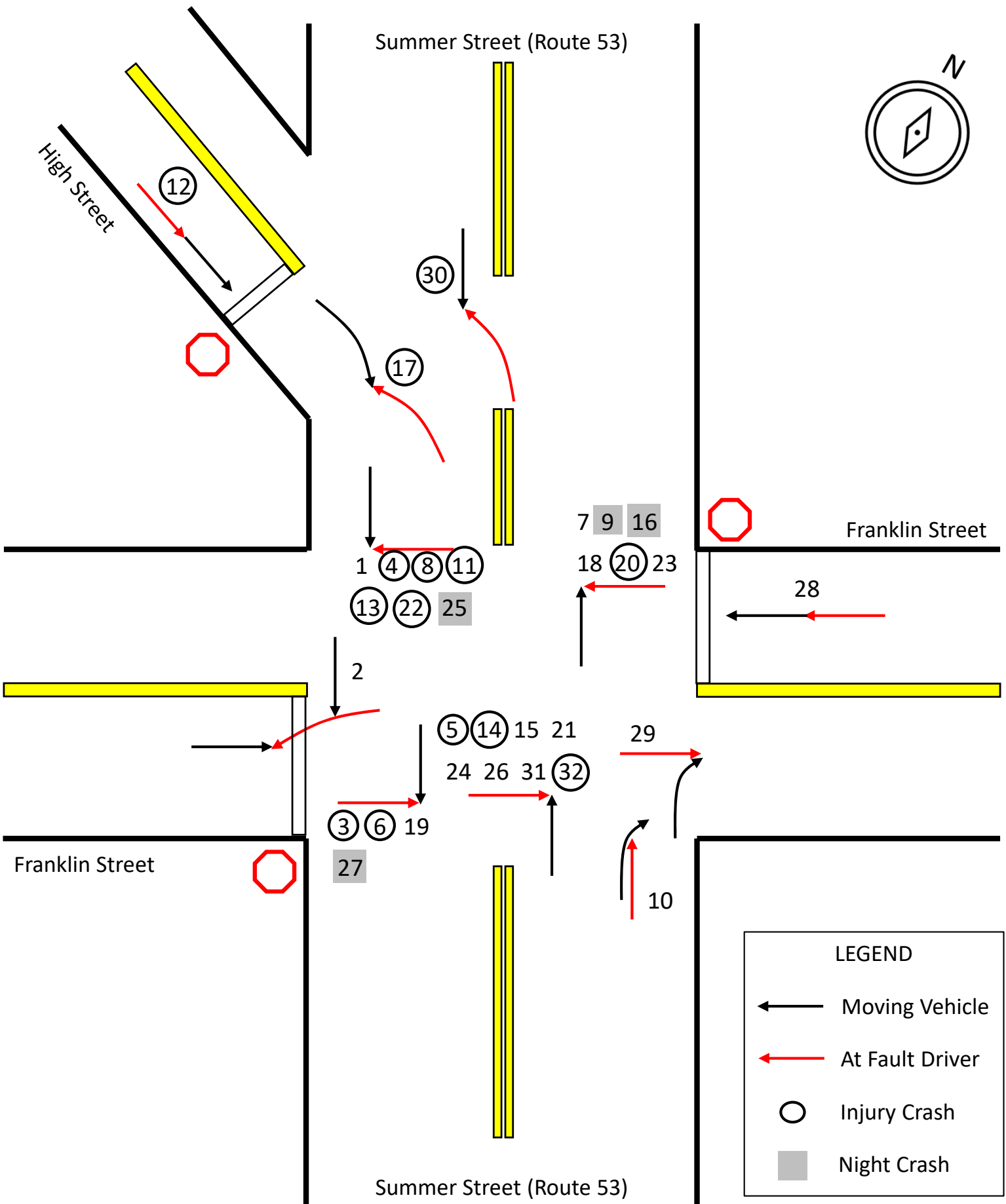
**Crash Data Summary Tables and Charts**  
 Summer Street (Route 53) at Franklin Street & High Street, Duxbury, MA



**Crash Data Summary Tables and Charts**  
 Summer Street (Route 53) at Franklin Street & High Street, Duxbury, MA



**COLLISION DIAGRAM**  
 Summer Street (Route 53) at Franklin Street & High Street  
 Collision Diagram for Crashes (2017-2020)  
 Prepared by OCPC (SB 11/2021) (Source: Duxbury Police Dept.)



**LEGEND**

- Moving Vehicle
- At Fault Driver
- Injury Crash
- Night Crash

## Appendix D. Additional Information

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## Appendix E. Road Safety Audit References

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## Road Safety Audit References

*FHWA Office of Safety - Proven Safety Countermeasures*, U.S. Department of Transportation, Federal Highway Administration <https://safety.fhwa.dot.gov/provencountermeasures/>.

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