

BELMONT POLICE

PEDESTRIAN SAFETY



James MacIsaac
Assistant Police Chief

Knowledge ~ Courage ~ Integrity

- In December 2001: assigned to the Traffic Division as a Patrol Officer responsible for the investigation of serious motor vehicle crashes.
- 2006: at the rank of sergeant, assigned as the Officer in Charge of the Traffic Division.
- 2009: promoted to Lieutenant
- 2012: Assistant Police Chief

Think Like a Motorist and a Pedestrian

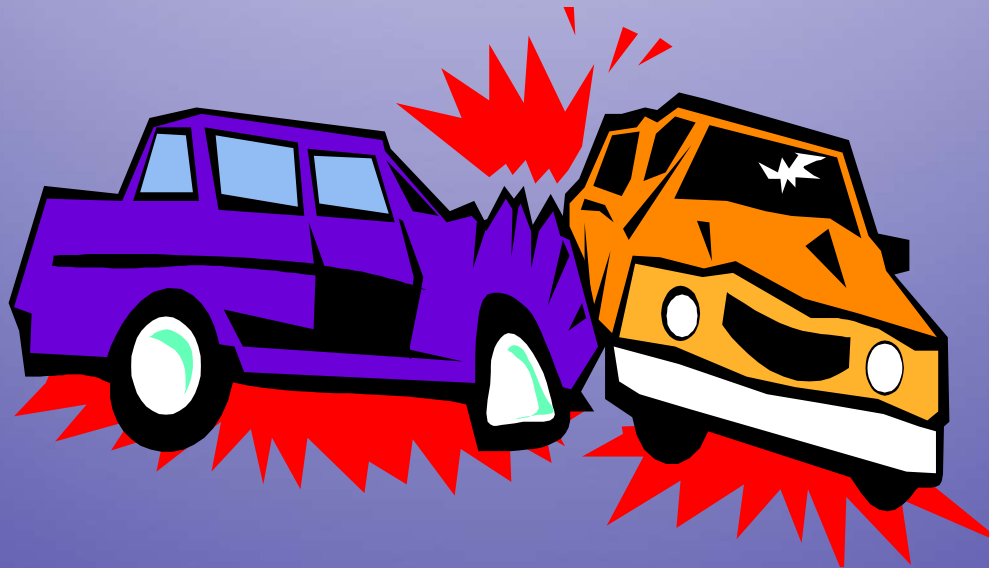


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Crash vs. Accident

An "accident" is, by definition, unintentional. We accidentally drop dinner plates, or send e-mails before we're done writing them. The word also suggests something of the unforeseen — an event that couldn't have been anticipated, for which no one can be blamed.

Almost all crashes stem from driver behavior like drinking, distracted driving and other risky activity. About 6 percent are caused by vehicle malfunctions, weather and other factors.



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ACCIDENT



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What is with the Traffic the Traffic **in BELMONT??**

Common Complaints

“I moved to Belmont because I thought it was a nice quiet town but there is too much traffic on my street.”

“Cars are using my street as a cut-through and they are speeding so very fast.”

“Children live on this street and can't play in or near the street because of speeding cars.”

What People in Belmont would like our streets to look like

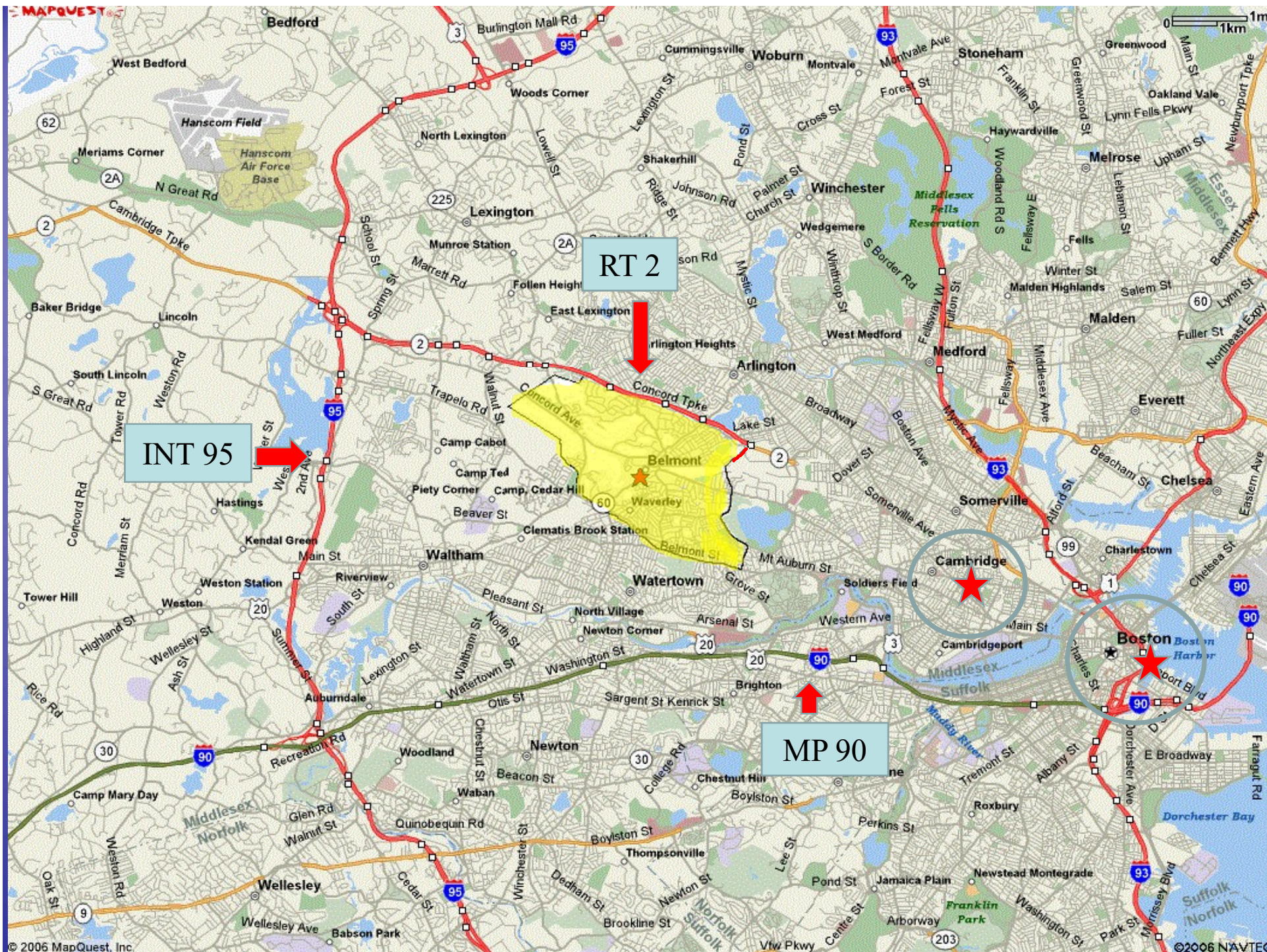


Boston Traveler 1936

One hundred speeders were arrested last night at Belmont's "Death Corner" where three fatal accidents have occurred so far this year.



Belmont St @ Grove St 1936



Registered Motor vehicles in Belmont

- Belmont has an estimated population of 25,637.
- According to the RMV (2001) we had as many as 19,000 Motor vehicles registered in Belmont. Treasures Office 17,000 in 2018
- Belmont Population 25,637 Combined Area Population (Bel, Wat, Lex, Wal, Arl, Camb) = **304,555**. Belmont 6 Miles from TD Bank Garden Boston.

DENSITY

State Division of Local Services has defined

59 economically developed suburbs

Belmont is quite different from other Economically developed suburbs. Of the “59 economically developed suburbs” Only three, Brookline, Arlington and Melrose, exceed Belmont’s density.



Belmont is twice as dense as over 70% of the compared suburbs and three times as dense as half the towns in the category, and five times as dense as 25% of these suburbs.

ARLINGTON



384
STREET SUPERVISOR

386
2.68 Sq. Miles
9,007
Population

386

383

383
1.04 Sq. Miles
7,483
Population

387

387
.42 Sq. Miles
7,865
Population

Belmont Police Department
460 Concord Ave
Belmont, MA 02478



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1 inch = 595 feet

BELMONT, MA

WATERTOWN

CAMBRIDGE

LEXINGTON

WALTHAM

Belmont's streets resemble urban streets



We cannot eliminate traffic in Belmont and it is
only going to get worse.
Traffic is a regional problem.



The bad news first: Belmont is not an island. Most of the traffic on Belmont roads is cut-through traffic. There is no lawful way for Belmont to block or deter cut-through traffic. There is every reason to believe that the problem will get worse.
Sen Will Brownsberger



PEDESTRIAN DEFINITION

M.G.L. Ch90-18A defines a pedestrian as any
“person in or on any conveyance, other than a
bicycle, constructed and designed for
propulsion by human muscular power, as
well as including a person on foot.”

“But I had the Right of Way”

“The right of way is not something that you have, it’s something that you give. So, you don’t take the right of way, you give the right of way.” Ryan Caseldon, Attorney

Regulated Crossing

Regulated Crossing are controlled by traffic lights and are push button actuated.



Unregulated Crosswalks

No Traffic Lights



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Unregulated Crosswalk

- Section 11. When traffic control signals are not in place or not in operation the driver of a vehicle shall yield the right of way, slowing down or stopping if need be so to yield, to a pedestrian crossing the roadway within a crosswalk marked in accordance with standards established by the department of highways if the pedestrian is on that half of the traveled part of the way on which the vehicle is traveling or if the pedestrian approaches from the opposite half of the traveled part of the way to within 10 feet of that half of the traveled part of the way on which said vehicle is traveling.
- No driver of a vehicle shall pass any other vehicle which has stopped at a marked crosswalk to permit a pedestrian to cross, nor shall any such operator enter a marked crosswalk while a pedestrian is crossing or until there is a sufficient space beyond the crosswalk to accommodate the vehicle he is operating, notwithstanding that a traffic control signal may indicate that vehicles may proceed.
- Whoever violates any provision of this section shall be punished by a fine of not more than \$200.

Crossing in an Unregulated Crosswalk





Pedestrian Laws

CMR 720 9.0

- Must obey Police
- Must Yield to emergency vehicles
- Must use crosswalk within 300 feet and follow all pedestrian signals located at crossing
- When exiting a parked vehicle on traffic side of vehicle, must use sidewalk along curb side of the vehicle and proceed to any crosswalk within 300 feet if the person intends to cross the street
- Must walk on sidewalk if available
- No Sidewalk: must walk facing traffic unless on right side of a divided roadway
- Must use pedestrian tunnels and overpass
- Fines: \$1.00

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Motor Vehicle Laws

89-11	Failure to Yield to a pedestrian in Crosswalk	\$205.00
89-11	Improper Passing of MV stopped for a pedestrian	\$205.00
90-14A	Failure to Stop for Blind Pedestrian	\$505.00
89-11	Blocking a Crosswalk	\$205.00
89-9	Failure to Stop for a yellow or red pedestrian light	\$105.00
90-14	Failure to slow for a pedestrian in the roadway	\$40.00
90-14	Failure to slow for a street railway passenger	\$40.00
90-14	Opening Door near pedestrian, bicycles, other traffic	\$105.00

90-24 sets forth two alternative offenses:

- (1) driving recklessly
- (2) driving negligent so that the lives and safety of the public might be endangered

Penalty: HCNLT 2wks, MNT 2 Years; Fine NMT \$250. RMV 1st offense: 60 day sus.

Subsequent w/in 3 yrs. 1 year sus. Judge may order sus during probation

M.G.L. c.90 -24(2)(a)

Operating to Endanger

*The issue is whether the motorist
Drove reasonably, not what he/she
may have subjectively intended.*

1. Negligent Operation: a driver fails to operate his/her vehicle reasonably which creates a risk of danger to others.
2. Reckless Operation: the driver consciously ignores, or is indifferent to, the fact that his/her driving will likely result in someone's death or serious injury.
(reasonable person would know that death or serious injury will probably result)

Analysis of Pedestrian Crashes in Belmont

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Since 1946 we have had 39 Pedestrian Fatalities

- Analysis of 12 Fatal Crashes occurring after 1982:
- The Average Age of Pedestrians Killed over a 36 year period: 77
- On June 17, 1989, two elderly sisters were struck and killed while crossing Trapelo Road in the vicinity of Poplar Street.

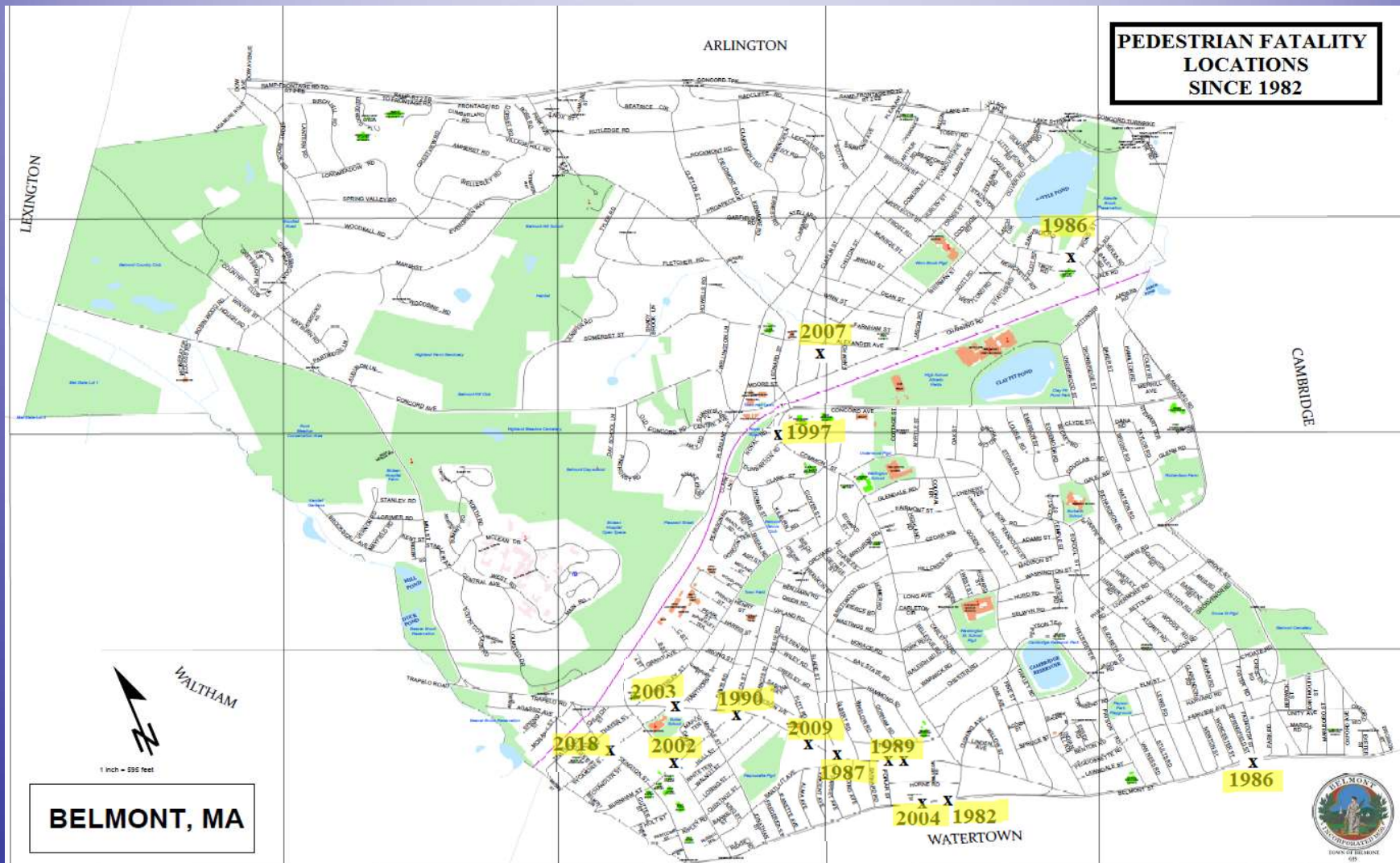
Investigation Summary of Results and Findings

- None of the crashes involved speeding vehicles. There were two cases where speed possibly played a factor, but was not the overriding cause.
- The cause most often sighted was that the operator did not see the pedestrian. Reasons given ranged from operator inattention, solar glare, and dark clothing at night.

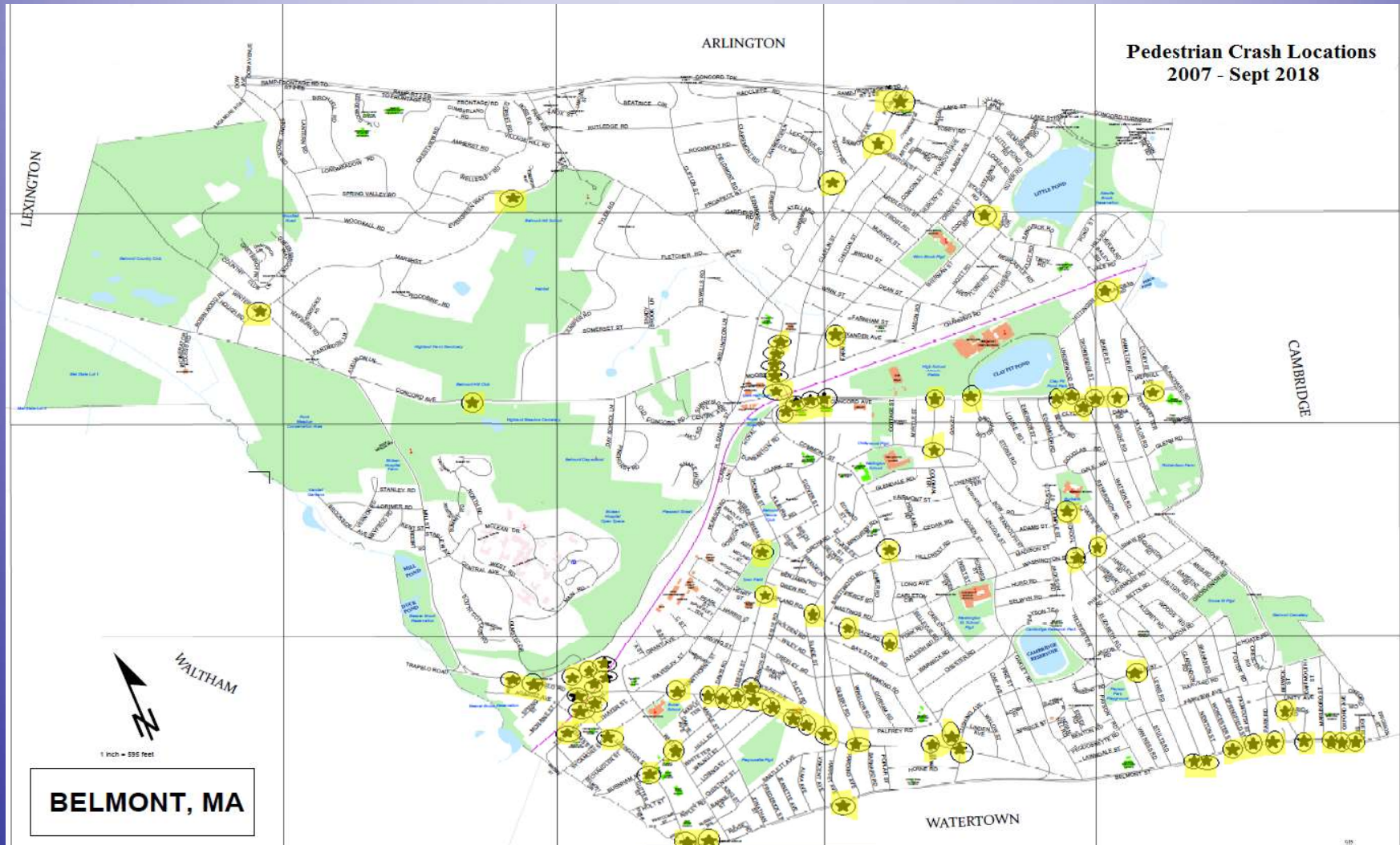
Roadway Locations Where Belmont Crashes Occurred

- 7 occurred in unregulated crosswalks (no crossing lights).
- 5 occurred outside of regulated and unregulated crosswalks.
- 1 occurred in a regulated crosswalk (crossing lights). This crash was at a very low speed.

PEDESTRAIN FATALITY LOCATIONS SINCE 1982



PEDESTRIAN CRASH LOCATIONS TOWN WIDE 10.5 YEARS



The Cause most often Cited

**Vehicle Operator did not see the
Pedestrian**

Reasons:

- *Operator Inattention**
- *Solar Glare**
- *Dark Clothing at night/early morning**

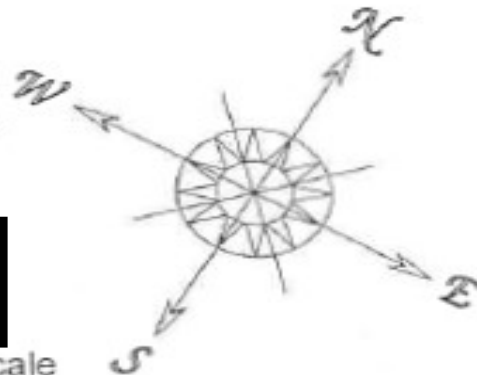
Operator Inattention



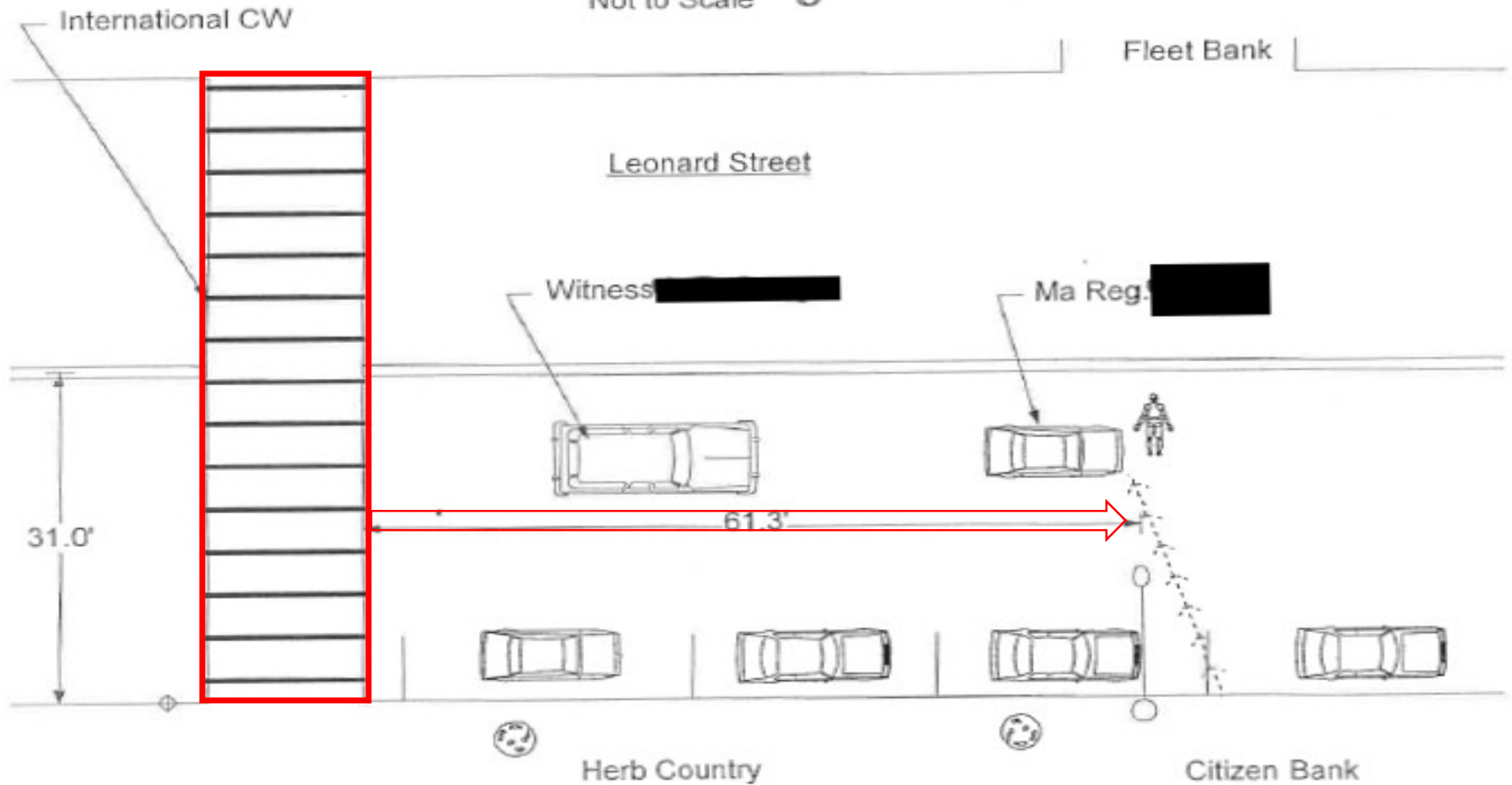
Solar Glare/Dirty Windshield



Belmont Police Traffic Division
460 Concord Ave
Belmont, MA 02478



Not to Scale



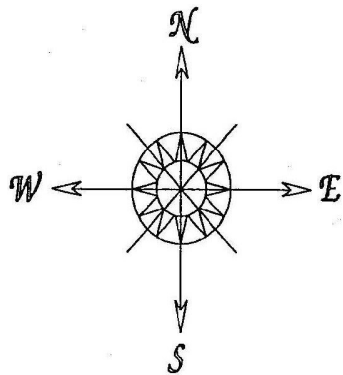
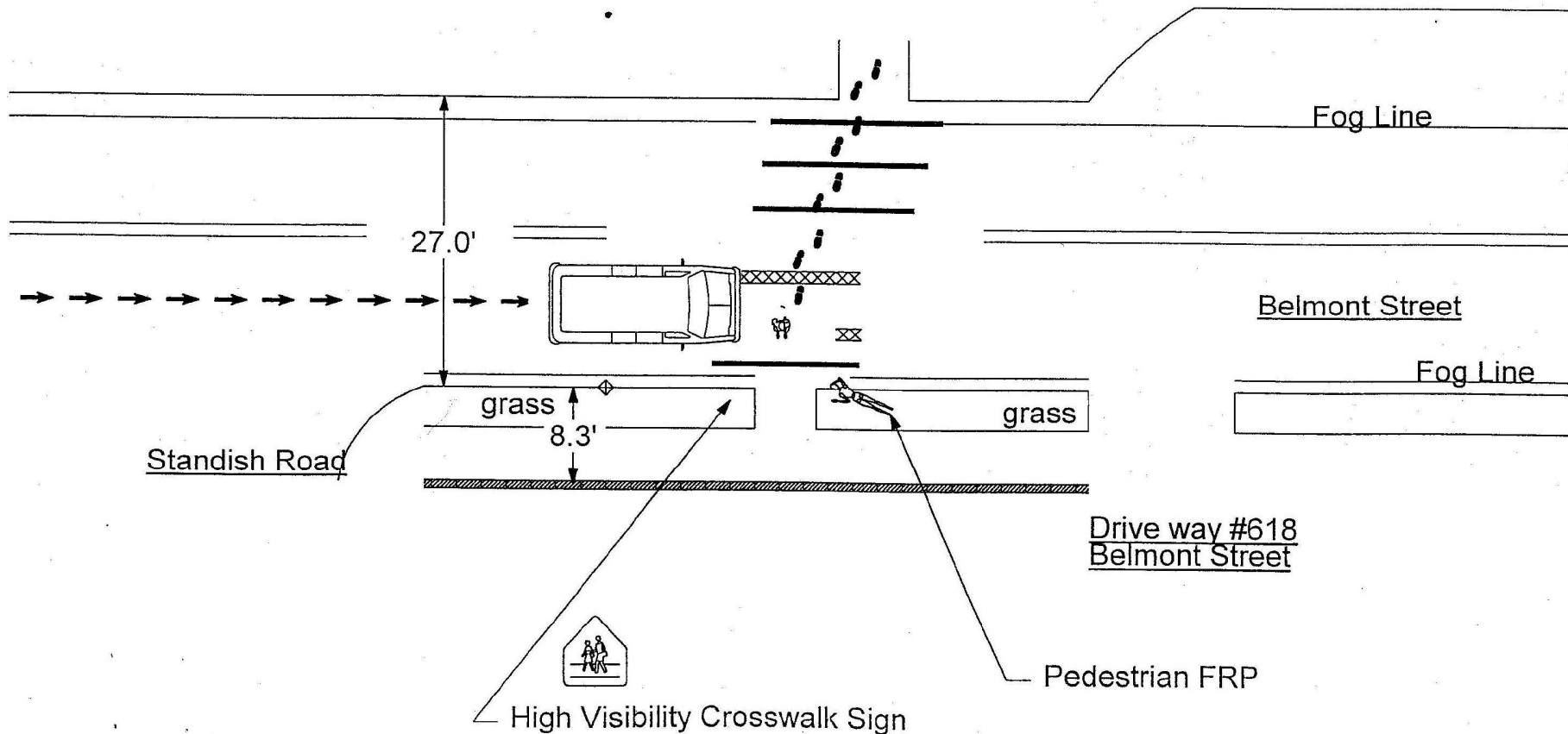


Diagram #3 (Pedestrian Path)
Case # 04001309

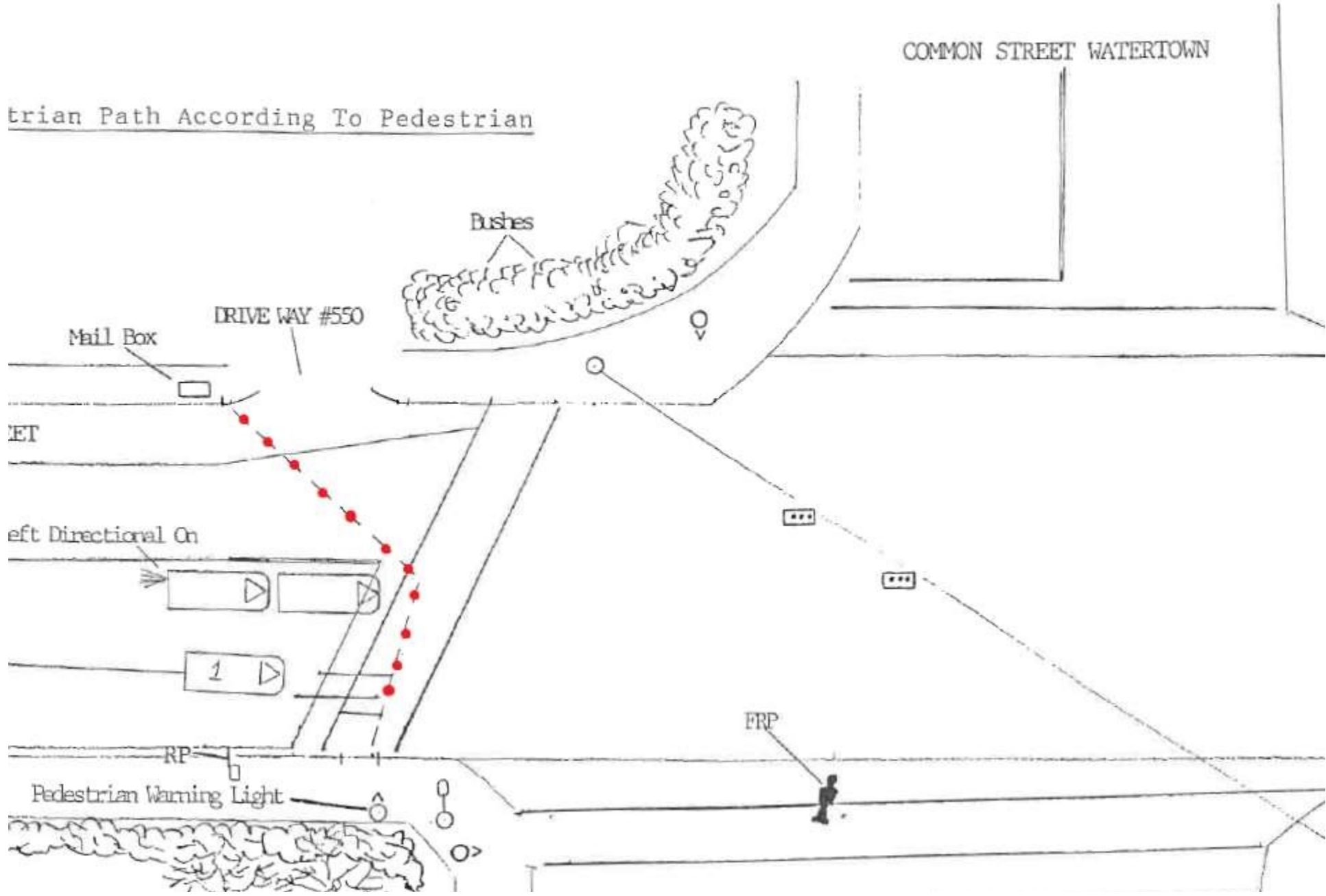
Crosswalk #618 Belmont Street
Pedestrian vs. MV

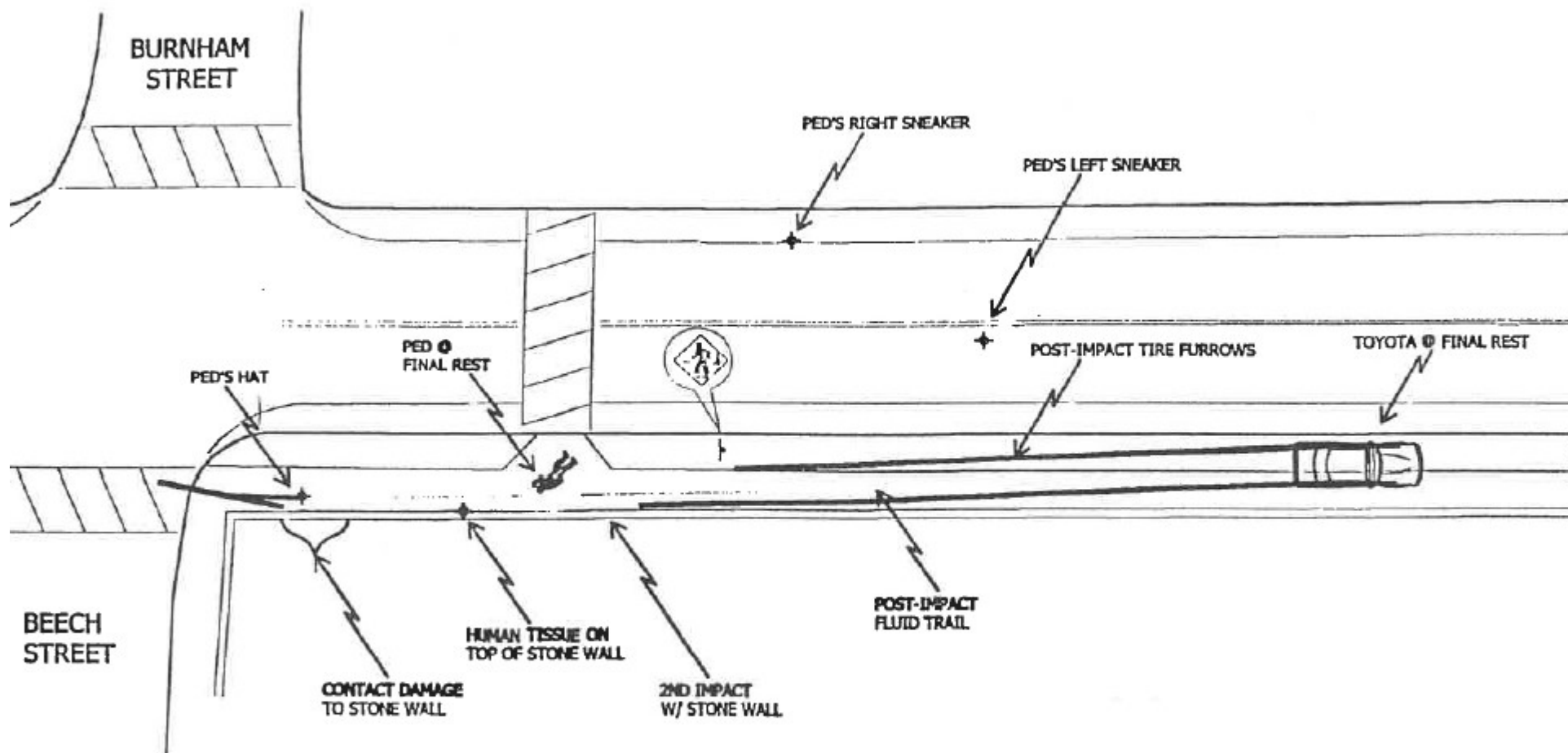
Sgt. James MacIsaac
Belmont Traffic Division





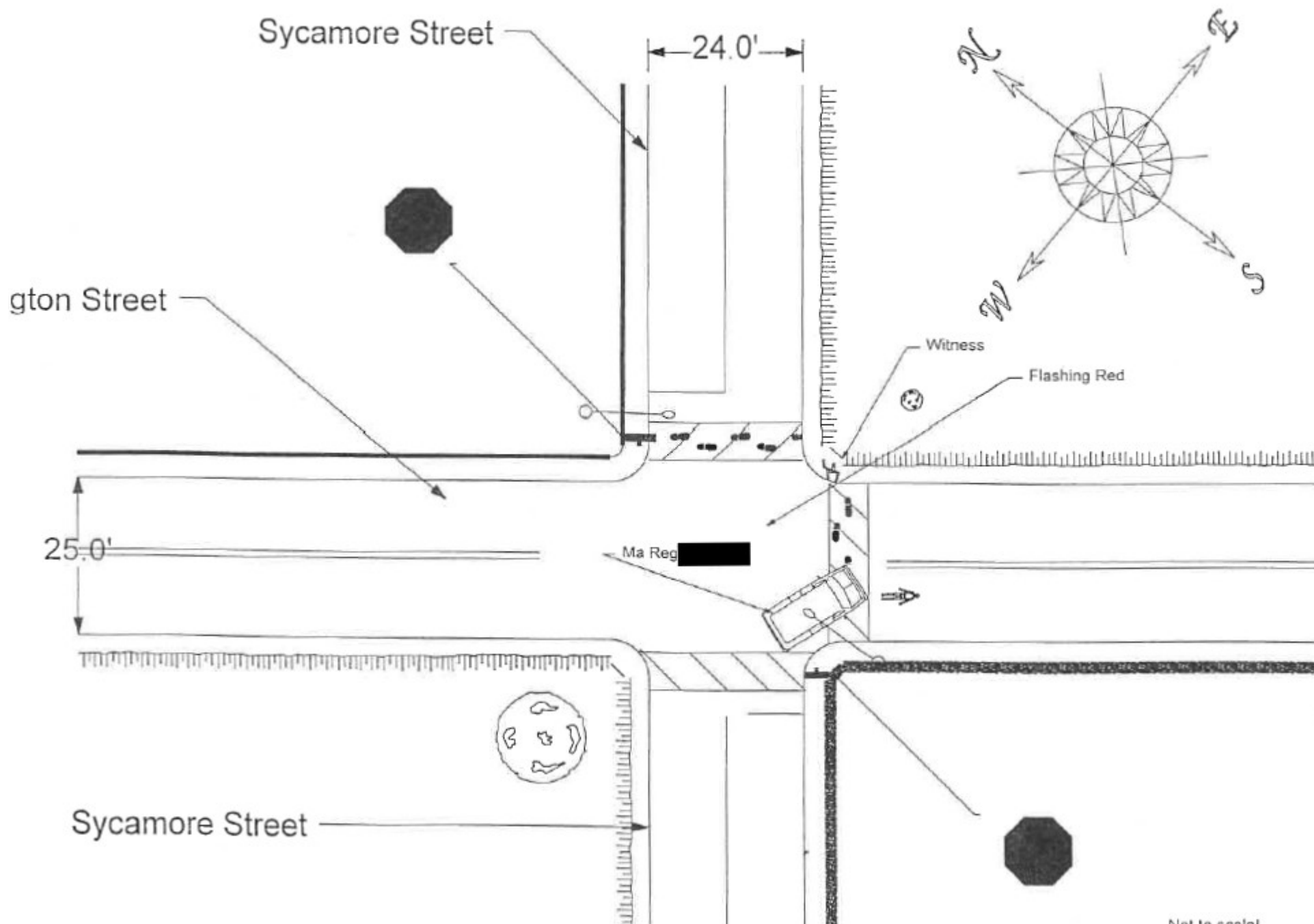
trian Path According To Pedestrian

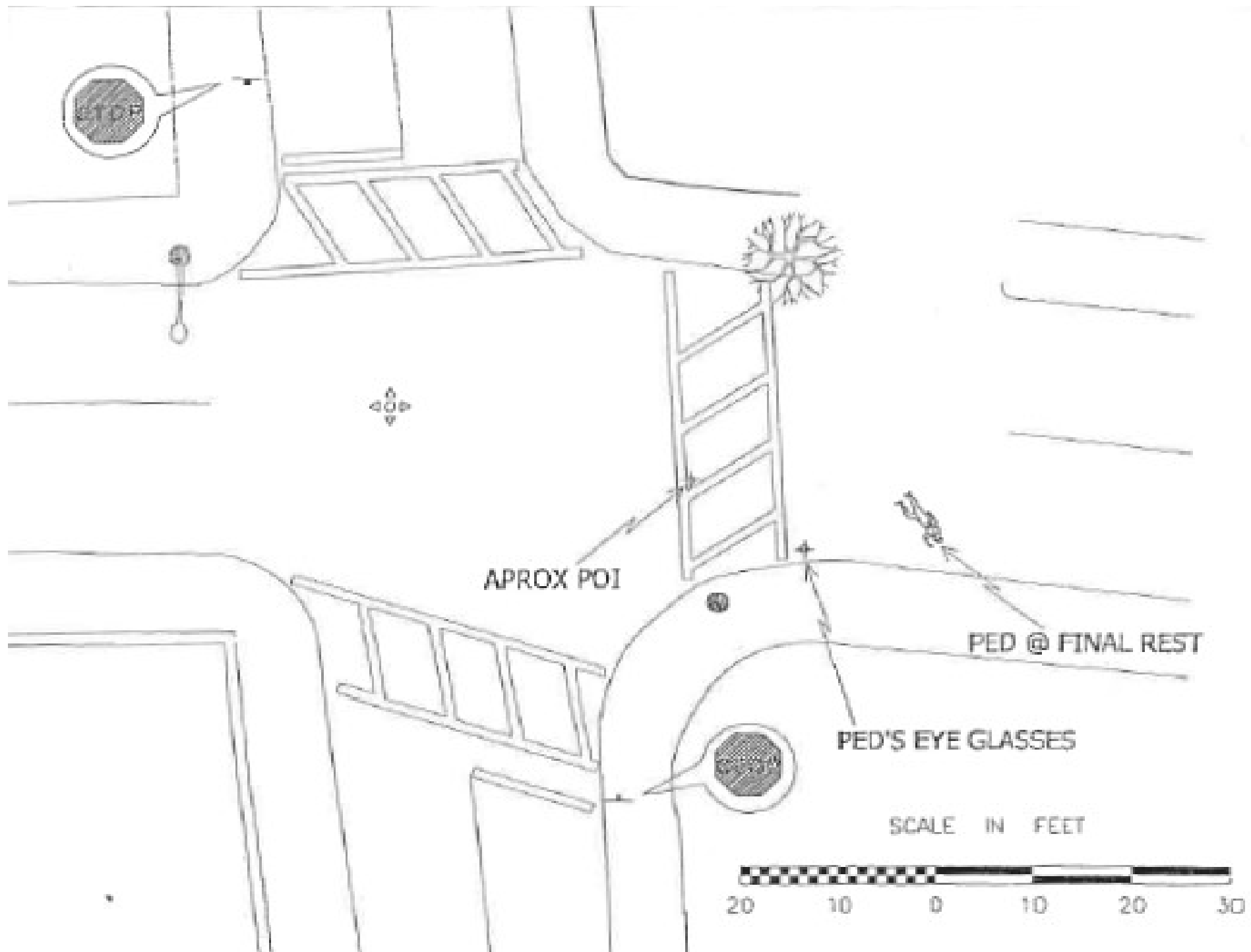




SCALE IN FEET





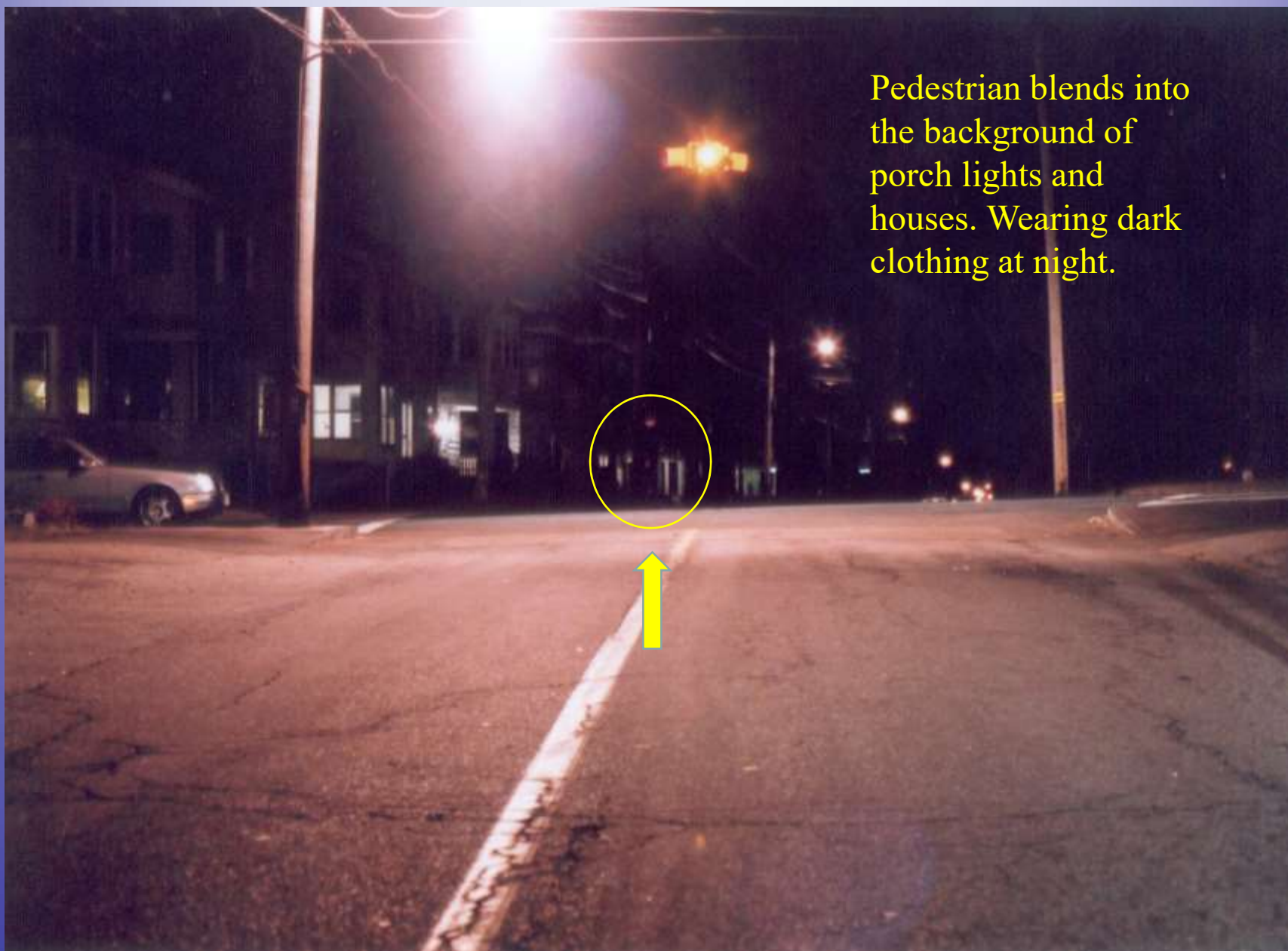


Reconstruction
Photos of
Pedestrian Fatality.

Do you see the
Pedestrian ?

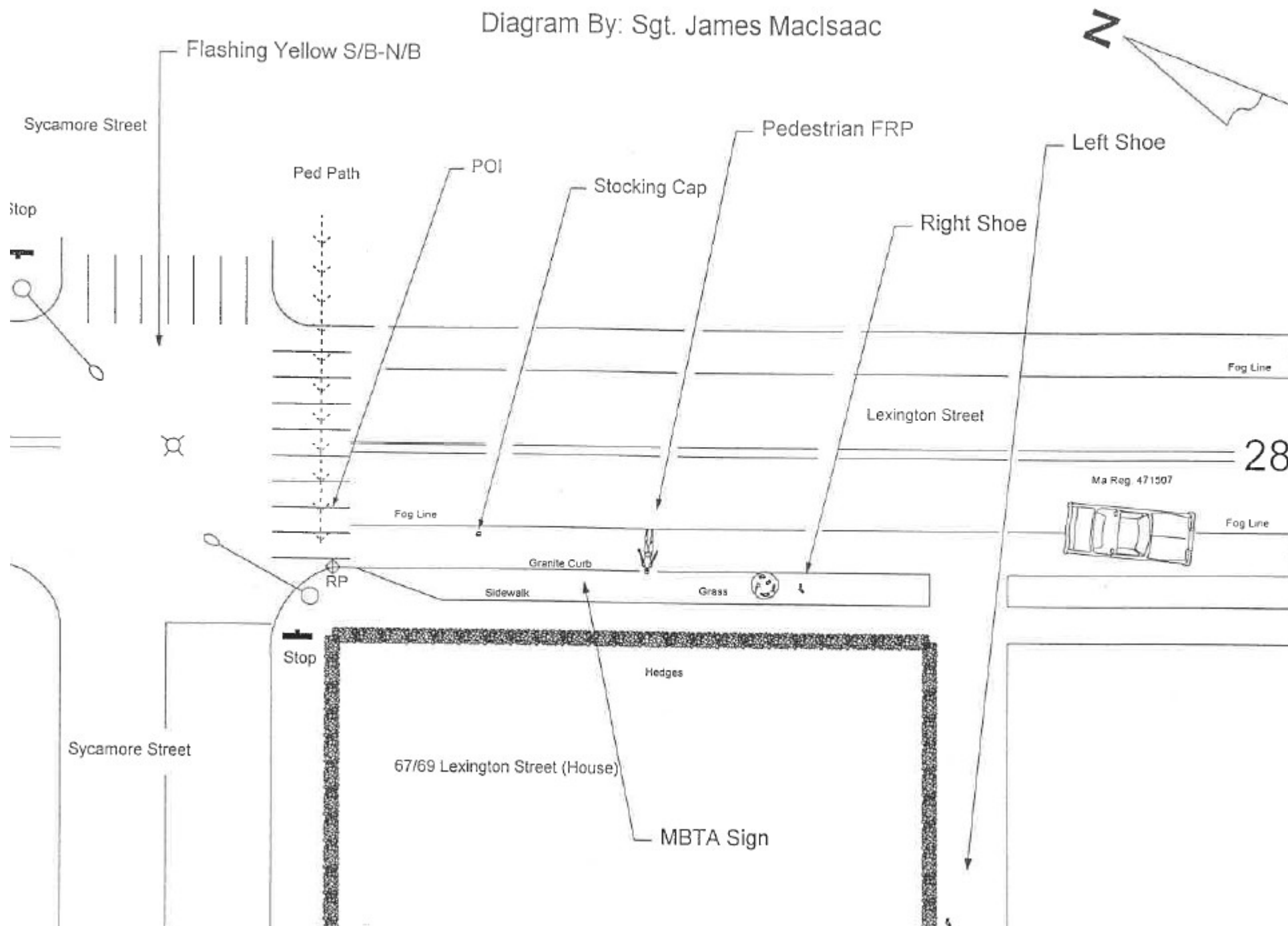


Pedestrian blends into
the background of
porch lights and
houses. Wearing dark
clothing at night.



Buick vs. Pedestrian

Diagram By: Sgt. James MacIsaac





NORTH

COMMON STREET

OVERDEFLECTED
SKIDMARKS

PEDESTRIAN @
FINAL REST

STOP

ROYAL
ROAD

Massachusetts State Police
100 State Street, Danvers, MA 01923
(978) 538-6056

Motor Vehicle vs. Pedestrian Fatal
Accident at Royal Road, Belmont, MA
November 1997 1507 Hrs

Sgt. Stephen J. Walsh #2040

5 10 15 20
SCALE IN FEET

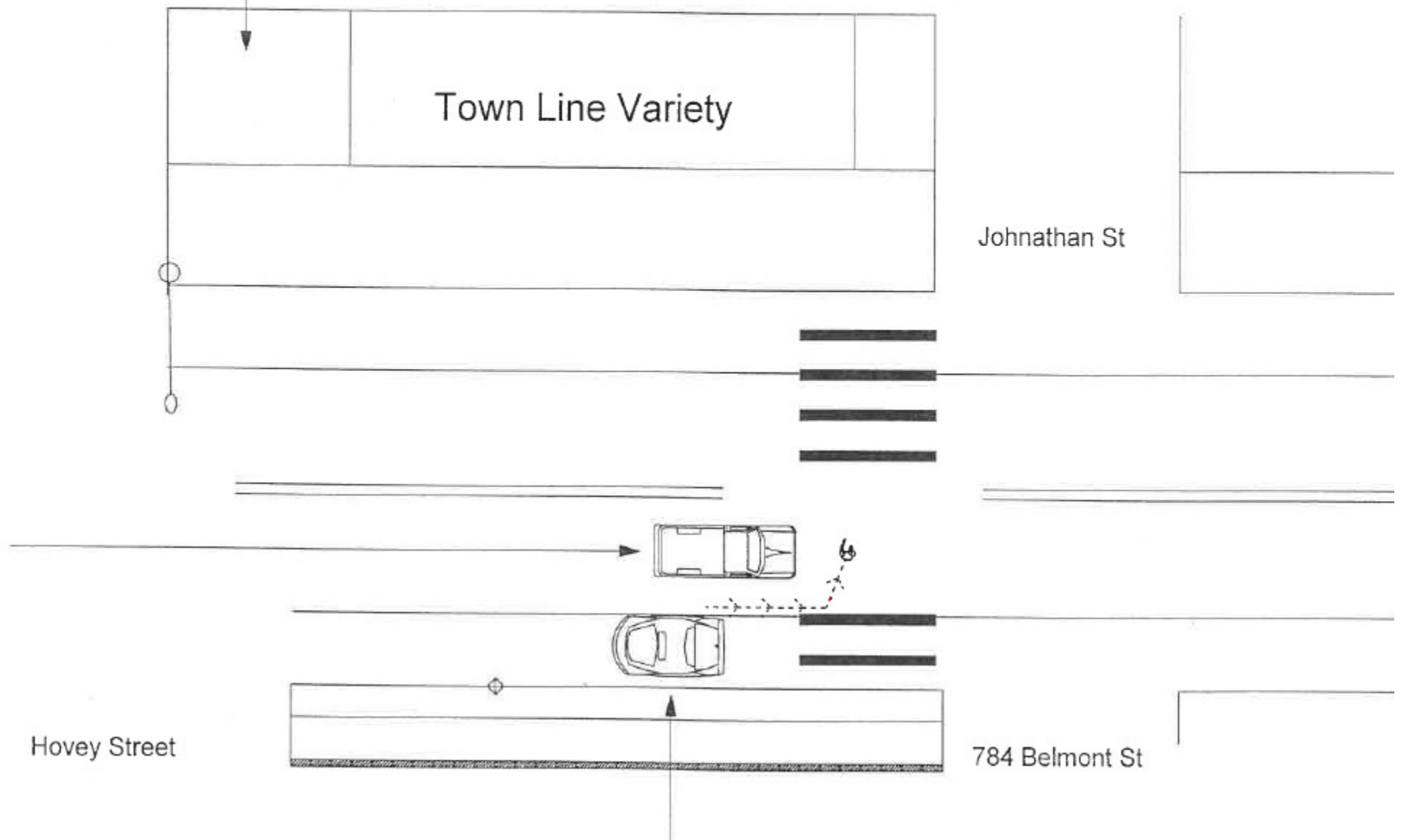
Belmont St

Town Line Variety

Johnathan St

Hovey Street

784 Belmont St



Environmental Characteristics of Pedestrian Fatalities

NHTSA 2016 DATA

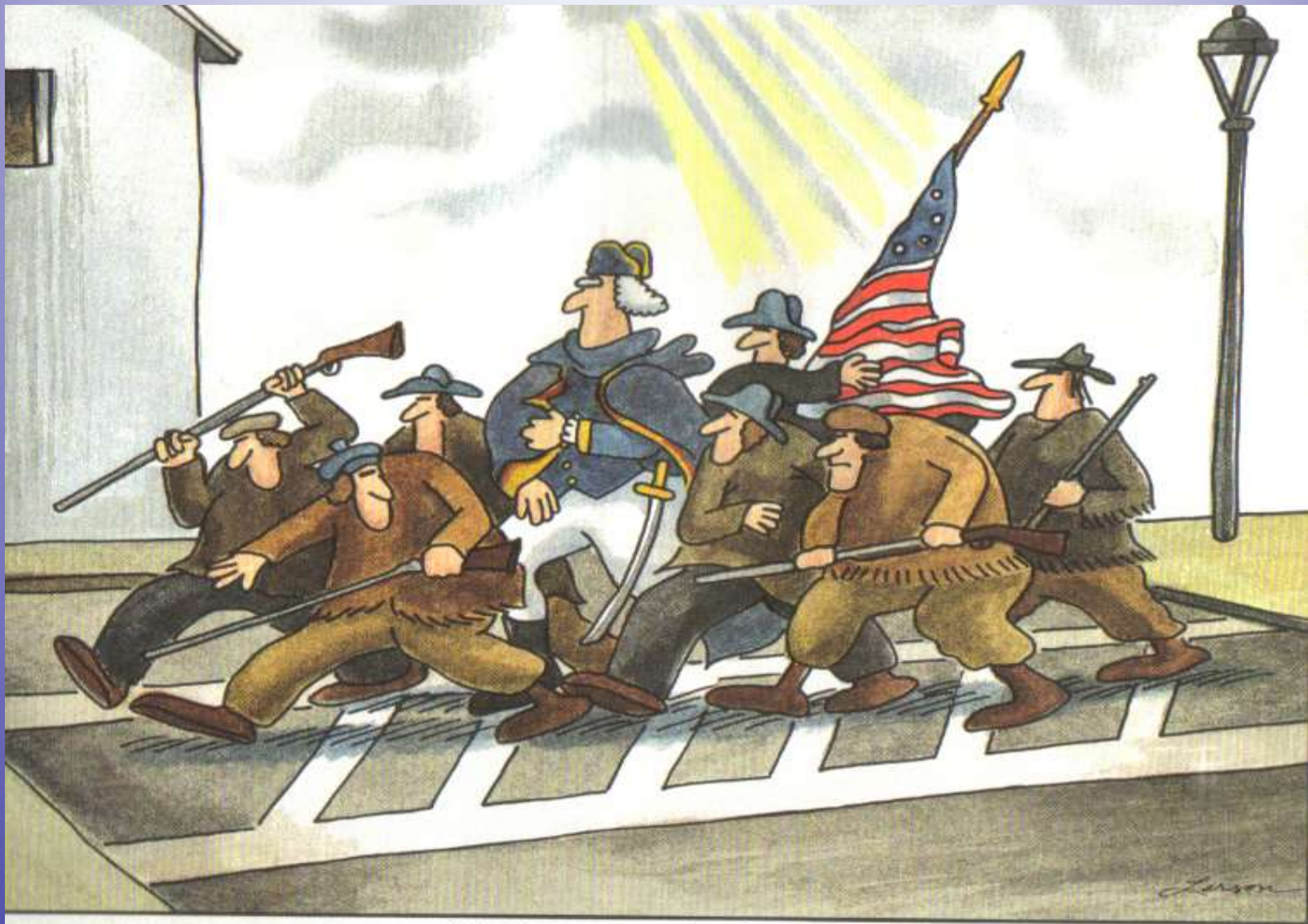
- More Pedestrian fatalities occurred in urban areas 76% than rural areas 24%
- Pedestrian fatalities at intersections 18%
- Non-intersections 72%
- Other non-traffic areas 10%
- Dark 75% Daylight 22% Dusk & Dawn 3%

Time of Day and Day of Week

- 26% occurred from 6PM-8:59PM
- 23% occurred from 9PM-11:59PM
- 5%, the lowest occurred from 9AM-11:59AM & noon-2:59PM
- Pedestrian's actions indicate the risks they are taking when crossing roadways.
- Driver's actions indicate the risks pedestrians encounter when crossing.

Pedestrians often do not appreciate driver and vehicle limitations

- Never assume, especially at night, that a driver can see you. Don't ever make the assumption that you have the right to cross a roadway in any location. In an unregulated crosswalk (no lights) the pedestrian has the right of way. However, there is no guarantee that a driver will give you the right of way (stop) for you.



Washington crossing the street

Distances of Nighttime Visibility

Accept your own vulnerability. The human eye is not adapted for nocturnal vision. As a result, drivers' visual acuity may be reduced by as much as 70 percent when driving at night.

Driver Perception Reaction is a 4 Step process that takes time

- 1. Detection**
- 2. Identification**
- 3. Decision**
- 4. Response**



50 MPH = 73.3 ft per/sec

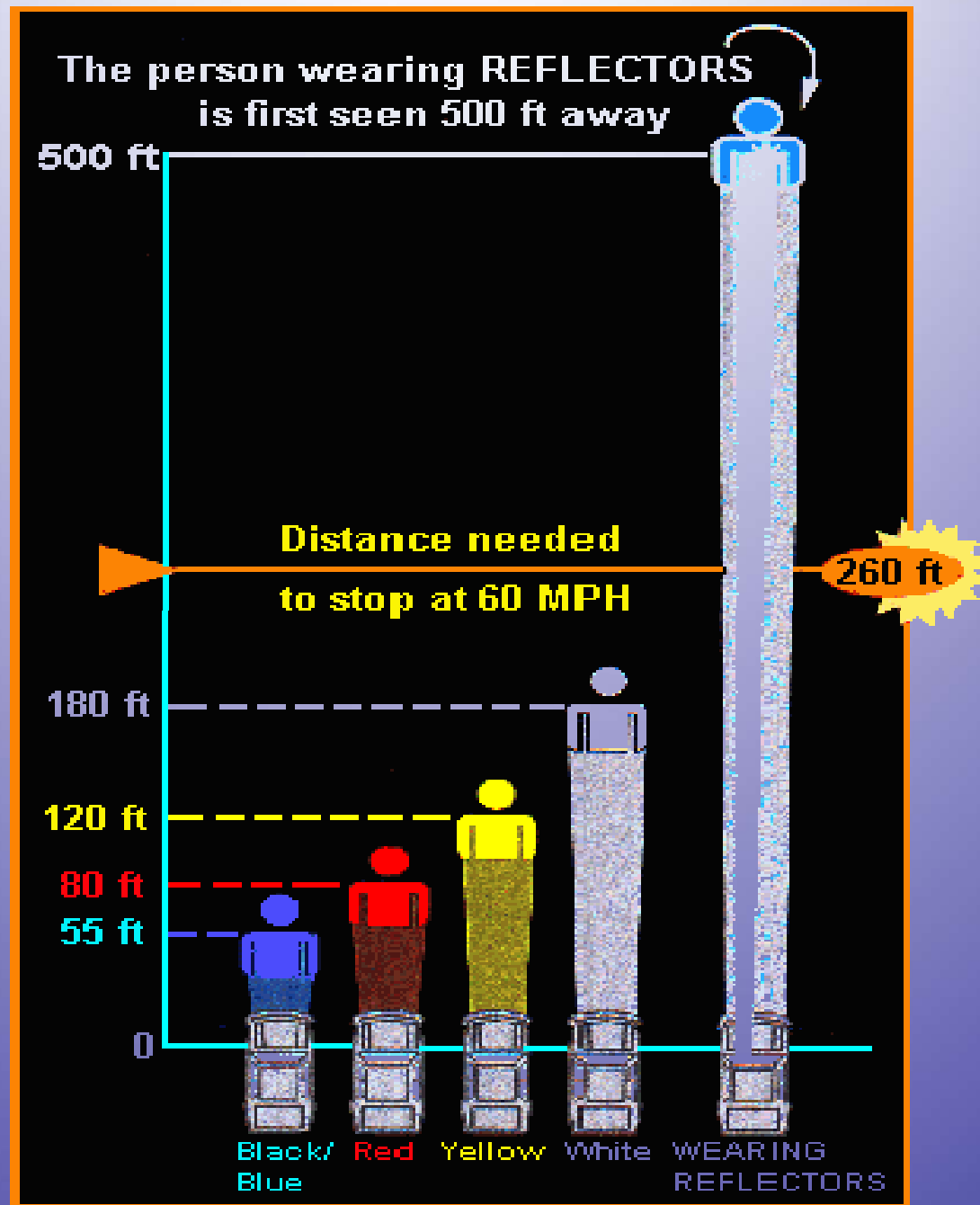
60 MPH = 87.96 ft per/sec

80 MPH = 117.2 ft per/sec

Nighttime Driver Reaction from 2.0 sec-2.5 sec

A vehicle traveling 60MPH will cover 175 ft in 2 seconds

← Distance at which driver FIRST SEE pedestrian →



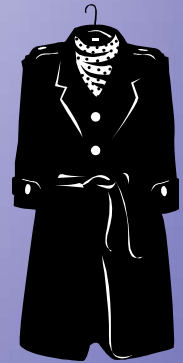
← Clothing Color →

WEAR BRIGHT CLOTHING

Bright colors on Hats and Tops are Best



What not to Wear or At least be aware that you have it on



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Choose to Walk Safe Routes

Things to Consider

Time of Day

- Sun Rise/Sun Set
- Traffic Patterns
- Crosswalks (Regulated or Unregulated)
- Be aware of solar glare and other distractions facing drivers
- *You may have to walk further to walk safer!!!*

Walking further to cross at a Regulated Crosswalk



Walking further to cross at a Regulated Crosswalk



Walking further to cross at a Regulated Crosswalk



CROSSING CONCORD AVE AT THE BRIDGE



Belmont Center



Image Landsat / Copernicus

Many crashes involving pedestrians can result from overconfidence

- Sometimes we are over confident in our capabilities and those of the driver.
- During darkness or other times of limited visibility, the pedestrian may assume that because they are able to see the headlights of an oncoming vehicle, the driver can also see them.
- Stepping out in front of a vehicle, assuming that the driver has sufficient time to stop.

Operators Bear Most of the Burden

Unfortunately, our hurried lives , cell phones and increased traffic are all interfering with our ability to safely operate a motor vehicle.

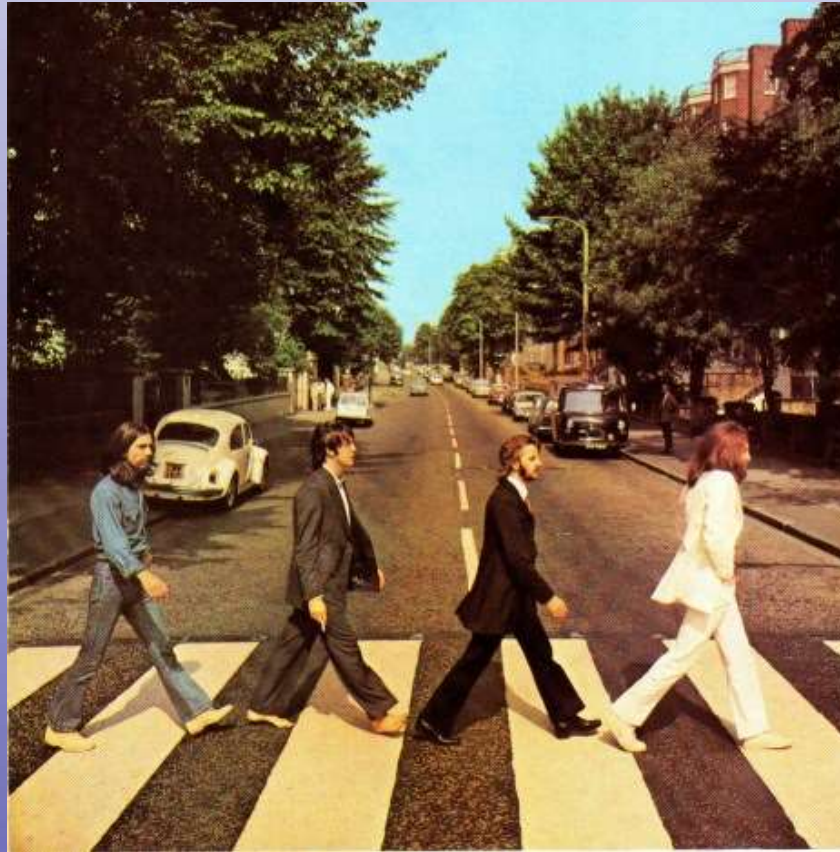
There are no winners only losers when a pedestrian is struck by a motor vehicle.

The consequences are severe for drivers who strike pedestrians.

Drivers and Pedestrians

Drivers and Pedestrians need to slow down, and pay attention to what is in front of them. When driving, know your limitations and those of your vehicle. Keep your windshield clean and obey the rules of the road.

Cool People use Crosswalks



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