



Diane Nichols Tradd
Assistant City Manager/DPD Director

Craig Thomas
Deputy Director

MEMORANDUM

TO: Eileen M. Donoghue, City Manager *EMD*

FROM: Diane N. Tradd, Assistant City Manager/DPD Director

SUBJECT: MOTION OF 3/27/18 BY COUNCILOR NUON
REQUEST THE CITY MANAGER REVIEW PEDESTRIAN SAFETY ALONG BRANCH STREET
BUSINESS CORRIDOR INDICATING IF SIGNAGE WILL IMPROVE SAFETY IN THE AREA

The Transportation Engineer conducted a field visit to the Branch Street corridor. This part of the City is a high traffic area for both pedestrians and vehicles. There are issues with pedestrian safety and ADA accessibility, which include faded and uneven crosswalks, cracked and damaged sidewalks and insufficient signage to notify drivers about mid-block crossings.

Short term fixes that are recommended:

- crosswalk painting;
- sign inventory and adjustment;
- add signage in advance of crosswalks;
- add a flashing beacon/light at the intersection with Middlesex Street.

The Sign Division of the Lowell Police Department can repaint the crosswalk lines in the Branch Street corridor and can add and/or adjust any signage required at the direction of the Transportation Engineer, for low to minimal cost (<\$300). Adding a flashing beacon/light at the crosswalk with a pedestrian push button that will be wired to the electrical grid can cost between \$20,000-\$30,000. There is a new solar flashing beacon available from Migma Systems that would cost approximately \$3,000. The device is Manual for Uniform Control of Traffic Devices (MUTCD) compliant and MassDOT final approval is pending. See attached.

A long term solution could include a Branch Street corridor infrastructure improvement project, similar to projects completed on Bridge Street, Church Street and Lawrence Street, as well as Cupples Square. A first step could include performing a Road Safety Audit (RSA) to determine the most pressing safety concerns. As part of our Complete Streets policy, the City needs to consider pedestrian safety and accommodations in any design efforts. In addition, the City is required to implement an ADA accessibility plan to bring public ways into compliance with the ADA. The infrastructure improvements could include the following:

- Mill and overlay pavement;
- Repair paver crosswalk, or replace with stamped crosswalk marking (see attached);
- Sidewalk improvements for ADA accessibility;
- Pavement marking for driving and parking.

The infrastructure improvement project would be completed by the City of Lowell. On past similar projects, DPD handles neighborhood outreach and assistance to neighborhood businesses, and Engineering and DPW completes the design and construction of the projects. The intent is to help neighborhood businesses while improving ADA compliance, sidewalk and road conditions in the City of Lowell. We can also include traffic calming realignments, rain gardens and street trees.

The Engineering Department, DPD and DPW are closely collaborating on a long term fix for the Branch Street corridor, which will require reviewing budgets for what the City can afford that will have a significant impact to pedestrian safety.

NV/ns
9/18/18

Attachment

cc: John Cooper, Sign Division
Natasha Vance, Transportation Engineer



- Pre-cut patterns of preformed thermoplastic pavement marking material inlaid into stamped asphalt
- Imprints are made by tamping specialized pre-cut plastic templates into asphalt surface
- Asphalt only
- 90-mil thickness
- Apply with SR-60 or SR-120 infrared heater
- Moderate to heavy ADT; life cycle dependent on asphalt conditions
- Design flexibility
- Installations by Certified Applicators only

- Preformed thermoplastic pavement marking material is imprinted using specialized wire rope grids to create pattern
- Traditional brick look
- Asphalt only
- 150-mil thickness
- Apply with SR-120 infrared heater
- Heavy ADT
- Installations by Certified Applicators only

- Sheets of preformed thermoplastic pavement marking material
- Durable alternative to coating over stamped asphalt; material itself shall not be stamped
- Asphalt and concrete applications
- 90-mil thickness
- Apply with infrared heater or propane heat torch
- No stamping templates or grids
- Light to moderate ADT
- Installations by Certified Applicators only

- Interconnected sheets of preformed thermoplastic pavement marking material
- Combined look of brick & grout patterned material is surface-applied
- Asphalt and concrete
- 125-mil thickness
- Apply with infrared heater or propane heat torch
- Heavy ADT
- No stamping templates or grids
- Design flexibility
- Installations by Certified Applicators only

- Interconnected preformed thermoplastic pavement marking material for surface signage and logos
- Asphalt and concrete
- 125-mil thicknesses
- Apply with infrared heater or propane heat torch
- No stamping templates or grids
- Certified Applicator not required, but highly recommended for large applications



Migma Distributed Sensing Flashing Beacon (DSFB)



Various studies have indicated that the continuously flashing beacons do not necessarily attract driver's attention because they are always on and drivers get used to them. In addition, they flash 24/7, day and night, even when there are no vehicles or pedestrians on the streets, which could also introduce the visual noises to the residents living nearby.

Migma Systems has developed an alternative product, Distributed Sensing Flashing Beacon (DSFB). The sensor receiver is embedded inside the housing of flasher, drawing power from solar panel or solar battery. Using solar-powered detector, it flashes only when vehicles or pedestrians are detected within certain distance (up to 1500 ft) to the flasher. Otherwise, it is off! As an economic solution, it can also be installed at midblock crossing to automatically trigger the flasher when pedestrians are waiting to cross, without any pushbuttons. If preferred, it can also be configured to flash continuously simply by flipping a switch.

Some vehicle drivers can be easily distracted by devices such as smart phones while driving. These distractions, caused by their devices, are well documented, rising cause of pedestrian and/or vehicle accidents and sometimes fatalities. Migma Distributed Sensing Flashing Beacon can make a difference! *(Patent pending for DSFB.)*

Specification

Beacon Flasher

- △ Diameter 12"
- △ LED Quantity 138
- △ Luminous Intensity ≥ 4000 cd
- △ LED Lifetime 5.5 Years
- △ Visual Distance ≥ 1600 ft
- △ Operating Time 10 rainy days after fully charged
- △ Dimension 15"x5"x14"
- △ Weight 14 lb.
- △ Enclosure Protection IP65
- △ Material UV-stabilized polycarbonate
- △ Flashing Mode Vehicle-activated or continuous

Solar Panel

- △ Solar Panel Power 10 W
- △ Battery Capacity 12 VDC & 7 aH lead-acid battery
- △ Solar Panel Size 9"x11"

Vehicle Detector

- △ Sensor PIR motion sensor
- △ Sensing Range 30 ft (sensor to vehicle)
- △ Comm Distance 1500 ft (sensor to beacon flasher)
- △ Sensor Quantity Up to 4 sensors simultaneously
- △ Sensor Power 3.5W solar panel and 18650 Li-battery



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Migma

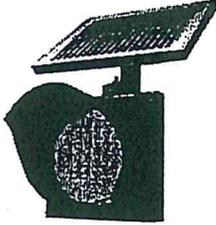


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Migma DSFB Price Sheet

(March 2018)

Product Name	Photo	System Cost	Description
Migma DSFB (Part No: MDSFB0218)		\$1095.00/each * plus shipping & handling & tax	Distributed Sensing Flashing Beacon (DSFB) which can flash continuously or activated by vehicle. Package contains: <ul style="list-style-type: none"> - housing - LED beacon - solar panel - battery - mounting bracket - installation manual
Vehicle Detector (Part No: MDSFB-D0218)		\$245.00/each (up to four sensors)	Vehicle detection sensor with capability of rejecting animals. Package contains: <ul style="list-style-type: none"> - bracket - solar panel - installation manual

* 10% discount on unit cost for two or more units shipped to same location

* Custom housing colors, please ask for quote

* Custom application or mounting, please ask for quote

* If vehicle detection sensor is not purchased, it will be continuously flashing. User can purchase the detection sensor later and make the flasher activated by vehicles.