# **Emmet Streetscape Project**

# Multi-modal Improvement Toolkit



### PROS:

stressful

Separates bike lanes from the motor vehicle traffic on roadway using buffers such as pavement markings or a physical buffer (curb, planters or parked vehicles). These bike lanes can be one-directional on each side of the road or bi-directional on one side.

- Increase the perceived areas of safety from cars makes bicycles routes seem less

### **CONS:**

- Needs additional right of way
- Requires a minimum width of 8-12' for a two-way configuration and 5-7' for a one-way configuration



# traffic during the red signal phase.

- Increases visibility of bicyclists - Groups bicyclists together to clear an intersection quickly, minimizing impediment to
- transit or other traffic - Aids bicyclists in making left turns on streets with more than one lane

A bike box is a designated area at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing

- Requires a minimum additional setback or 10-16' from crosswalk
- Requires driver compliance

### Crosswalks

**Bike Boxes** 

Indicates (with pavement markings) preferred locations where pedestrians can cross the road. Can be located at intersections or mid-block. The introduction of a crosswalk on an arterial such as Emmet will necessitate an additional pedestrian enhancement for safety purposes such as a Rapid Flashing

Beacon or HAWK signalization.

**Shared Use Paths** 

**Buffered Bike Lanes** 

- Alerts drivers to pedestrians crossing the roadway
- Designates right-of-way for motorists to yield to pedestrians

### **CONS:**

- Interrupts traffic flow
- Requires driver compliance - The incorporation of a mid-block crossing requires an analysis and justification for review and approval



Allows for multi-modal travel along roadways. Wide enough to accommodate bicycles and pedestrians.

### PROS:

- Separates non-auto traffic from the roadway entirely
- Allows multi-modal access

### **CONS:**

- Needs sufficient right of way for a 10' trail plus buffer distance from road



# Wide Sidewalks Expands the width of the sidewalk beyond the minimum.

PROS:

- Provides more pedestrian accessibility and provides comfort

### **CONS:**

- Needs additional right-of-way



Warns drivers that a pedestrian is crossing at an unsignalized location when flashing signal is activated by the pedestrian.

Separates pedestrians and vehicles using a curbed area in the crosswalk in the middle of the crossing creating a two-stage crossing.

PROS:

- Adds visual cue alerting drivers to pedestrians crossing

Rapid Flashing Beacon

**Pedestrian Refuge** 

**Hawk Beacons** 

- Reduces pedestrian crossing distances

### **CONS:**

- Increases cost compared to a crosswalk



# **CONS:**

- Minimum width is 6'

- Increases costs compared to a crosswalk



Pedestrian-controlled crossing signals that stop vehicular traffic when pedestrians are present.

PROS:

PROS:

- Provides a protected crossing for pedestrians

**Coordinated Signal Timing** 

**Leading Pedestrian Interval** 

# **CONS:**

- Disrupts vehicular traffic flow

- Significantly increases cost compared to a crosswalk



Syncronizes traffic flow and reduces delays.

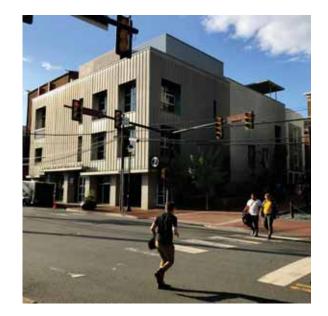
PROS:

- Reduces congestion

same direction of travel.

# **CONS:**

- Minimal improvement to traffic conditions where intersection is at full capacity



### PROS:

- Have been shown to reduce pedestrian-vehicle collisions as much as 60% at treated intersections

- Enhance visibility of pedestrians in the intersection and reinforce their right-of-way

# **CONS:**

A Leading Pedestrian Interval (LPI) typically gives pedestrians a 3-7 second head start when entering an intersection with a corresponding green signal in the

- Require adjustments to signal timing
- May require curb extensions or other extra costs



# **Innovative Intersection Design**

A variety of innovative intersection designs are available that can improve safety, move traffic more smoothly and better accommodate additional traffic without adding lanes to a roadway. i.e. Roundabouts







