Overall Considerations

City *of* Lawrence

- Current **Speeds** for both 21st St. and 13th St. are higher than desired speeds for a bicycle boulevard (25 miles per hour or less, 20 miles per hour preferred). Establishing a Bicycle Boulevard requires reducing speed to operating speeds 25 miles per hour or less and daily vehicle volumes less than 1500 preferred and less than 3000 allowed.
- **Parking** throughout the corridors is maintained, except where limited due to chicane placement. Parking, when present naturally narrows the roadway and calms traffic.
- **Chicane** design: Following the demonstration project, an additional bump out was added to the Chicane design to achieve the desired speed reduction.
- **Speed limit signs and markings** are used throughout the corridors to notify and reinforce the 20 miles per hour speed limit for speed reductions.
- **Bike Boulevard pavement markings** are used throughout the corridor to indicate to motorists that a roadway is intended as a shared space for people driving and bicycling. They also support proper lane positioning for people bicycling, which can reduce improper passing and door zone conflicts.
- **Wayfinding** signs provide valuable wayfinding guidance and reinforce the intention of priority for bicyclists along a given route. Signs can take the shape of modified street signs that contribute to the identity of the roadway as a bicycle boulevard, and wayfinding signs that direct people bicycling (and walking) to nearby destinations along the route.
- **Spacing of elements** meets the desired 650 ft. between traffic calming elements along the corridor which is a best management practice.
- **Major Street Crossing Improvements** and **Speed Management** were the top features that survey respondents stated they would like to see as part of the Bicycle Boulevards.
- **Median Islands** and **Traffic Circles** were the least desirable design elements identified by attendees at the February open houses. Neither of those elements are proposed in this design.

Context Sensitive Design

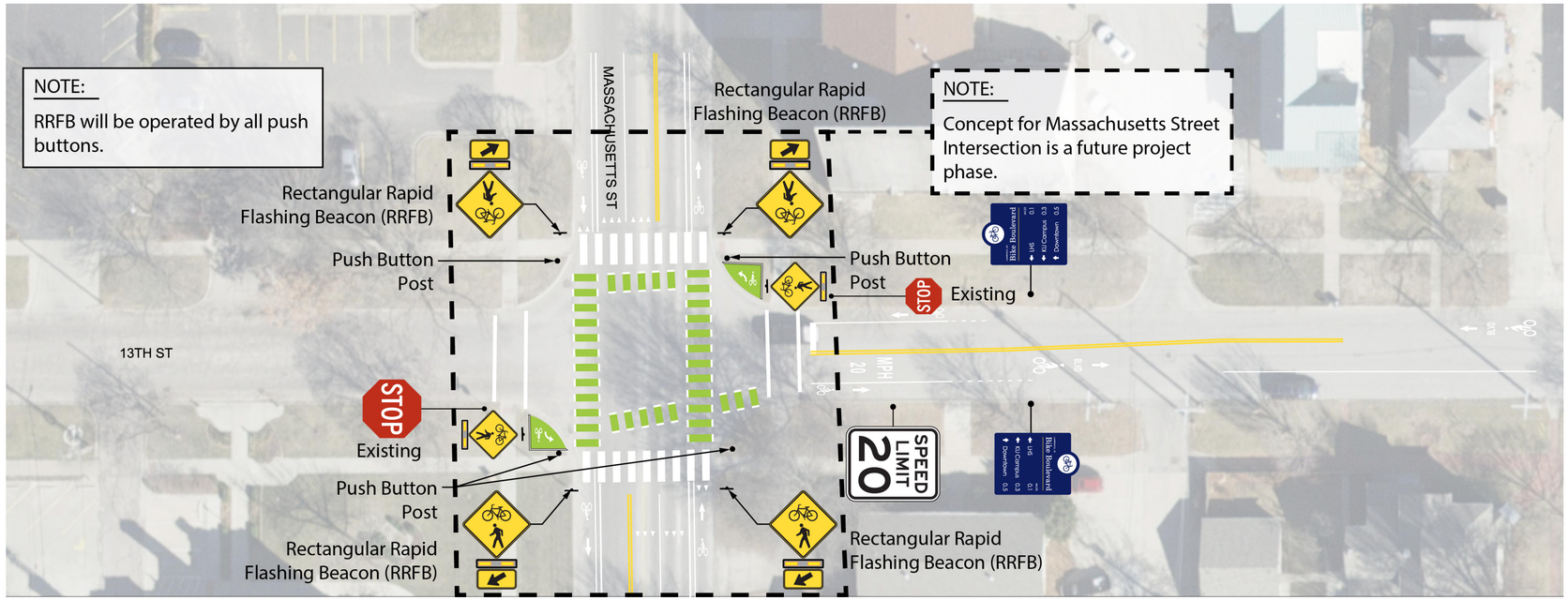
City *of* Lawrence

This process required planners and engineers to weigh the competing values and needs of users for these streets. All of the things that were considered and weighed in on the proposed designs presented are:

- Public input from the neighbors, bicyclists and residents at large
- Travel needs of the neighborhood
- Street classifications
- Emergency vehicle access
- Transit operations
- Street sweeping and snow plowing
- On street parking
- Crash history
- Existing traffic counts and speeds
- Funeral routing
- Pavement condition
- Storm water
- Pedestrian access and crossings
- Intersecting streets
- Bikeway network
- Safety for all users
- High school student access
- Safe Routes to School routes

13th St. & Massachusetts St.

City of Lawrence



Treatment Type: Intersection Crossing Improvements

Details: Rectangular Rapid Flashing Beacon, marked bicycle and pedestrian crossing spaces, signage/pavement markings to reinforce bicycle positioning in lane, speed limits signage and markings

Desired Outcome:

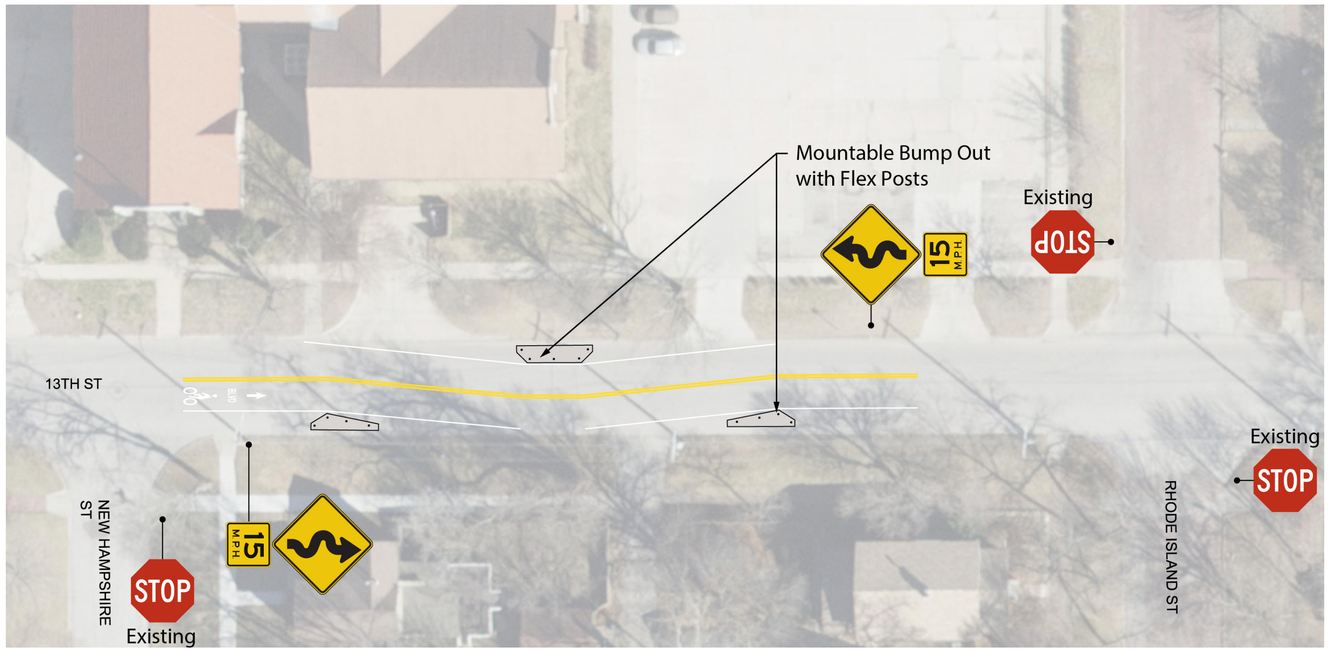
- Improve safety of crossing for non-motorized users

Issues & Considerations:

- Connects to existing buffered bicycle lanes on Mass St
- Desire for a lower stress bicycle crossing

13th St. between New Hampshire St. and Rhode Island St.

City of Lawrence



Treatment Type: Chicane

Details: Mountable curb with flex posts for visibility, centerline pavement marking to define lanes

Desired Outcome:

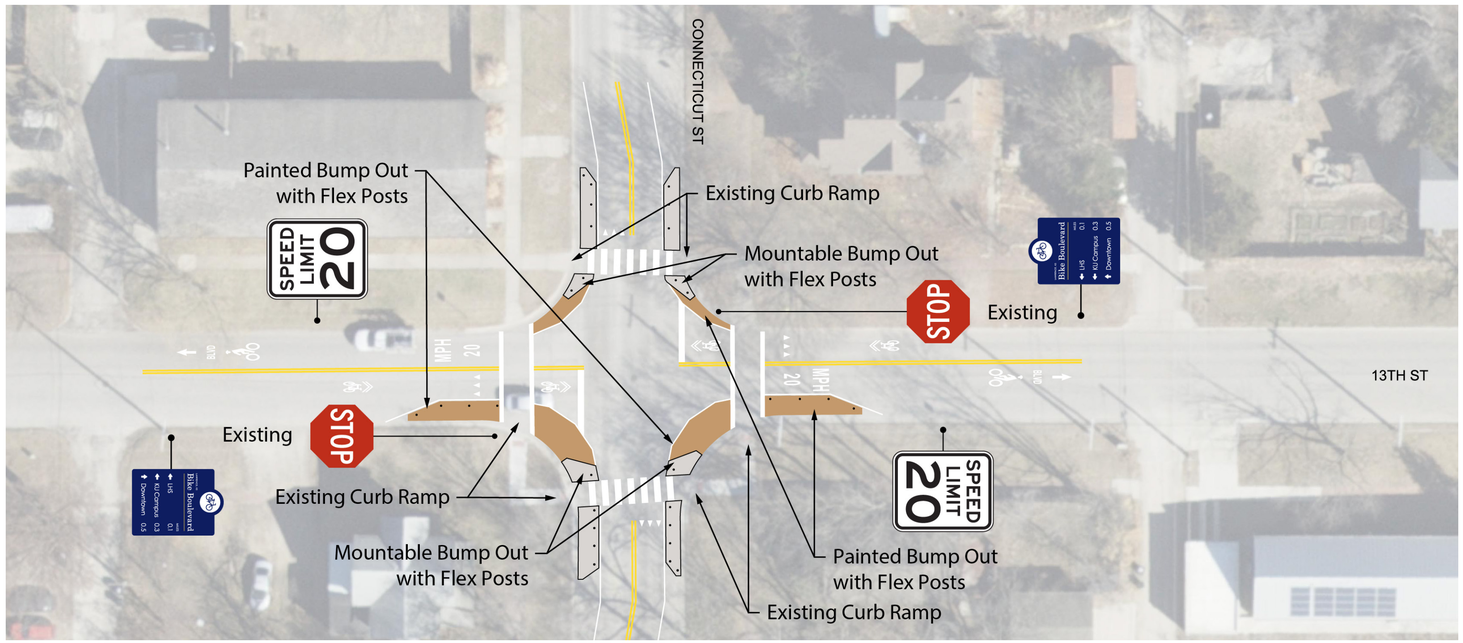
- Speed reduction to 15 mph design speed

Issues & Considerations:

- Current Speeds are higher than desired speeds for a bicycle boulevard (25mph or less, 20mph preferred)

13th St. & Connecticut St.

City of Lawrence



Treatment Type: Intersection narrowing and Pedestrian Crossing Improvements

Details: Mountable bump outs on Connecticut and painted bump outs on 13th to narrow travel lanes and shorten crossing distances, high visibility crosswalk markings on Connecticut, signage/pavement markings to reinforce bicycle positioning in lane

Desired Outcome:

- Improve crossings for bicyclists and pedestrians, especially for Safe Route to School route crossing
- Slow speeds on Connecticut near the intersection

Issues & Considerations:

- Concerns about the safety of crossing this intersection were raised by many participants at open houses
- Feedback from demonstration project resulted in no restrictions of motor vehicle movements
- Current speeds are higher than desired speeds for a bicycle boulevard (25mph or less, 20mph preferred)
- Safe Routes to School

13th St. between New York St. and Pennsylvania St.

City of Lawrence

Treatment Type: Chicane and speed dip

Details: Mountable curb with flex posts for visibility, speed dip

Desired Outcome:

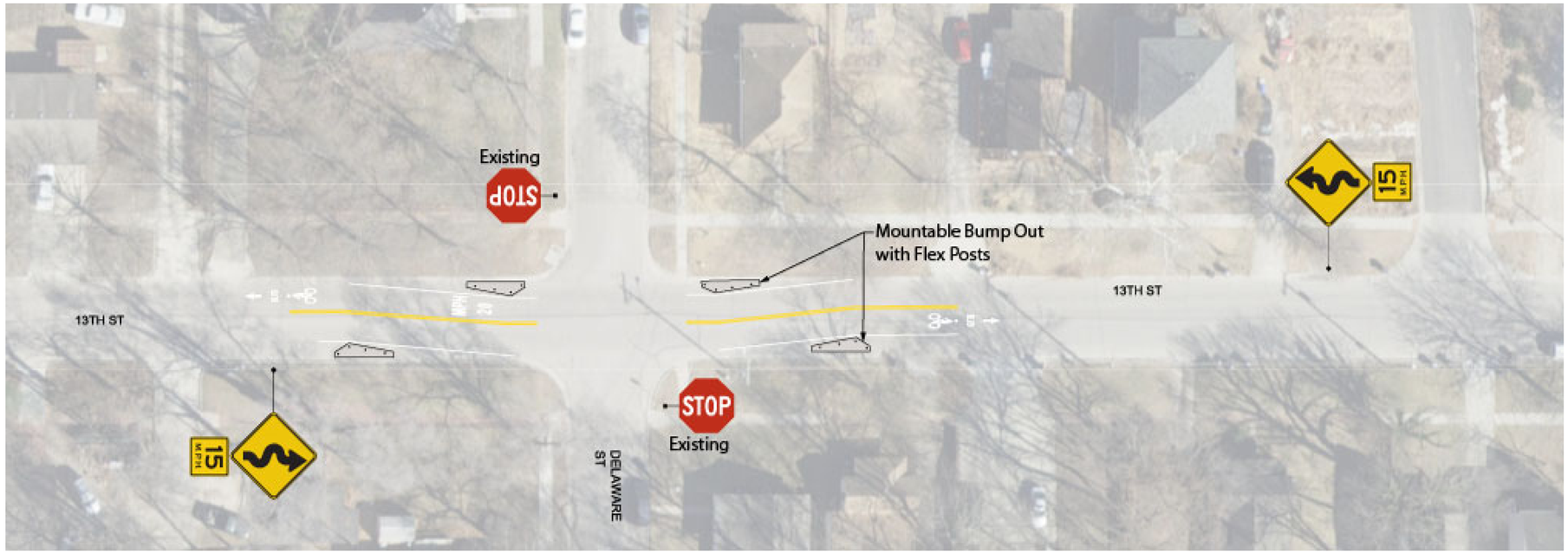
- Speed reduction for motor vehicles to support drivers traveling the posted speed

Issues & Considerations:

- Speed Dip provides bicycle riders center path for riding to avoid the deflection
- Current Speeds are higher than desired speeds for a bicycle boulevard (25mph or less, 20mph preferred)

13th St. - East of Delaware St.

City of Lawrence



Treatment Type: Chicane

Details: Mountable curb with flex posts for visibility, centerline pavement marking to define lanes

Desired Outcome:

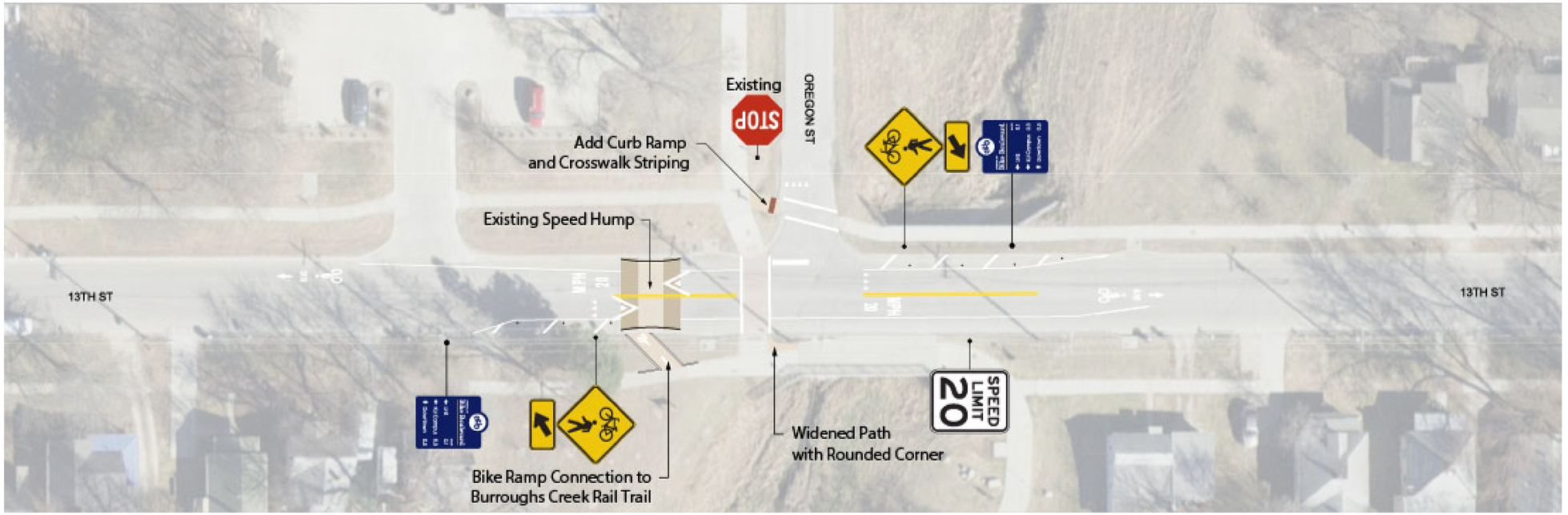
- Speed reduction to 15 mph design speed

Issues & Considerations:

- Current speeds are higher than desired speeds for a bicycle boulevard (25mph or less, 20mph preferred)
- Chicane has been shifted slightly west since the last open house to maintain on street parking near residences that do no have a side street next to their property

13th St. Burroughs Creek Trail/Oregon St.

City of Lawrence



Treatment Type: Lane narrowing, bike and pedestrian trail connections

Details: Pavement markings for lane narrowing, curb ramp from Oregon to the trail, east bound bike ramp connection to the trail

Desired Outcome:

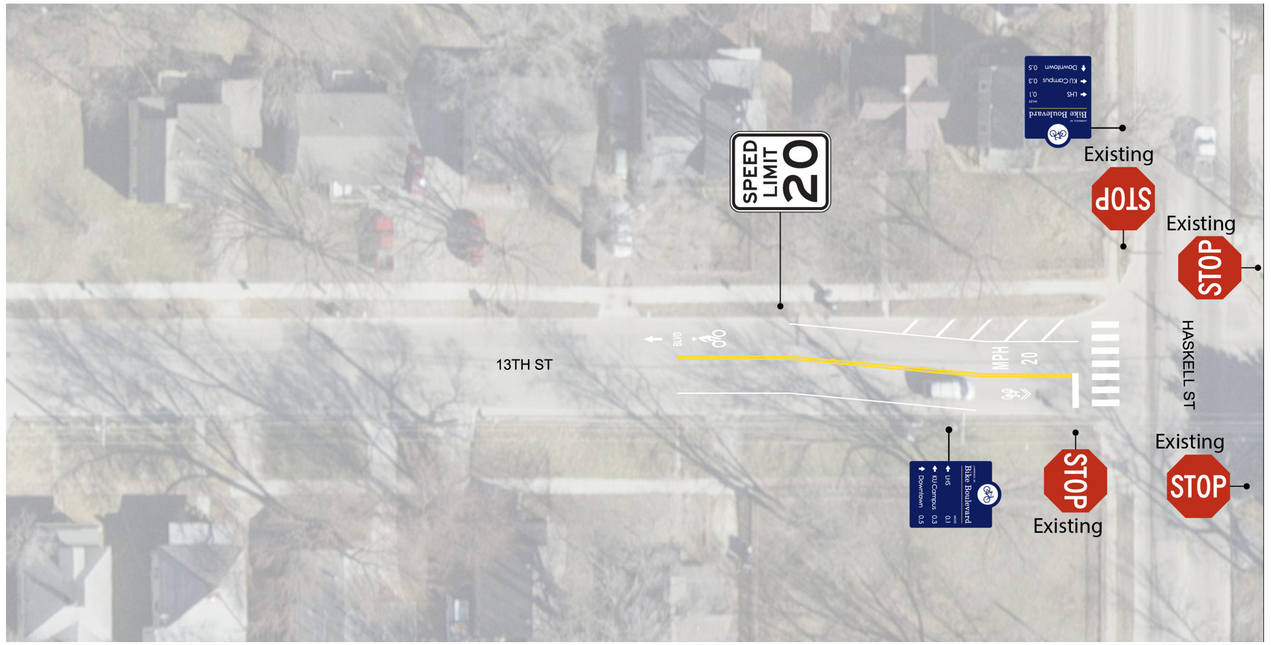
- Improved connectivity to trail
- Design to support existing speed hump

Issues & Considerations:

- Lane narrowing supports additional speed reduction and reinforces speed hump
- Burroughs Creek Trail is a higher volume bicycle and pedestrian crossing location
- Commercial truck access to local businesses
- Current speeds are higher than desired speeds for a bicycle boulevard (25mph or less, 20mph preferred)

13th St. & Haskell Ave.

City of Lawrence



Treatment Type: Narrowing of intersection with paint

Details: Painted bump out to narrow the intersection, speed limits signage and markings

Desired Outcome:

- Shortens pedestrian crossing distance
- Draw attention to this as a bike boulevard when entering from Haskell

Issues & Considerations:

- Lane narrowing supports additional speed reduction and entry onto Bicycle Boulevard
- Paint was used for bump out to ensure commercial truck access to local businesses