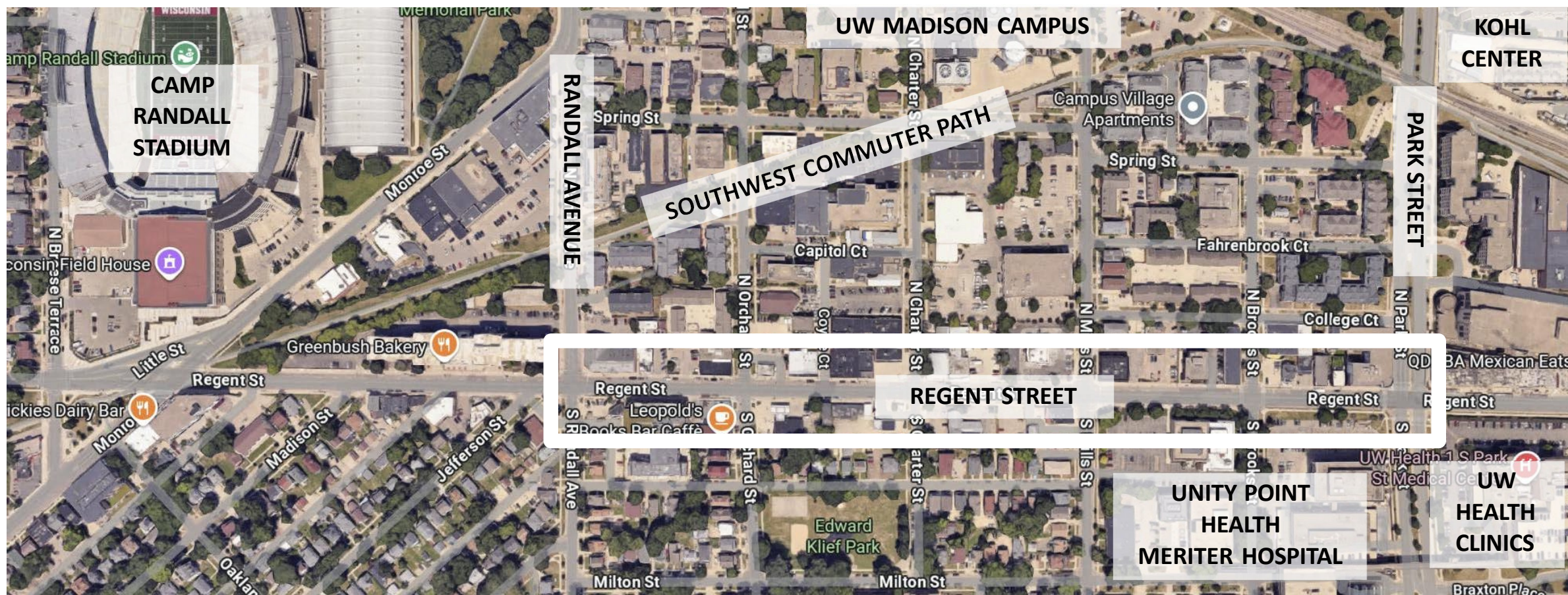


Regent Street Reconstruction—Randall Ave to Park St



Background

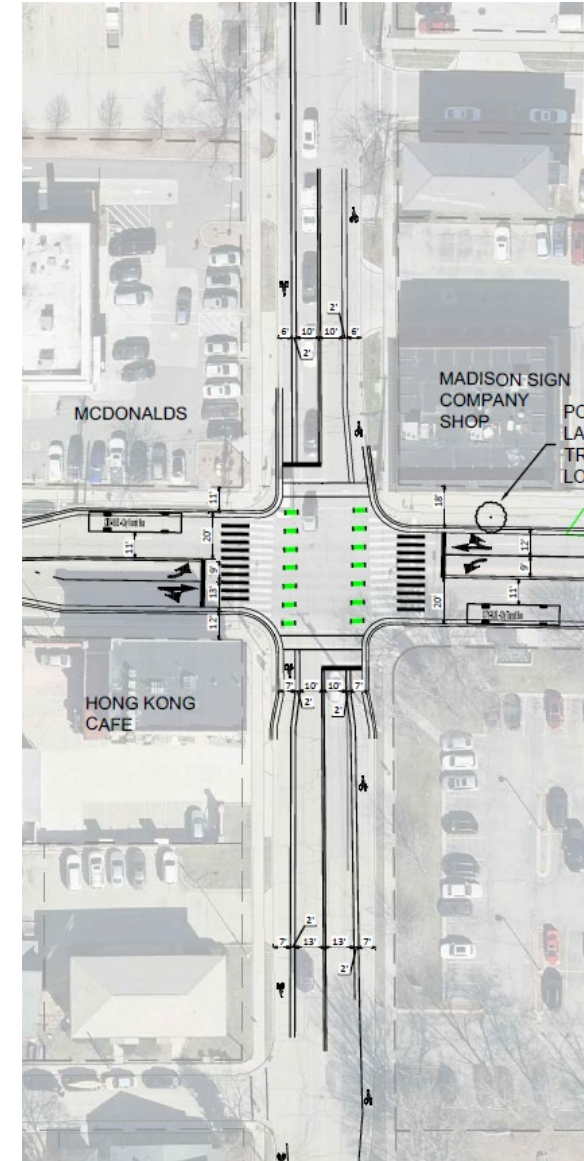
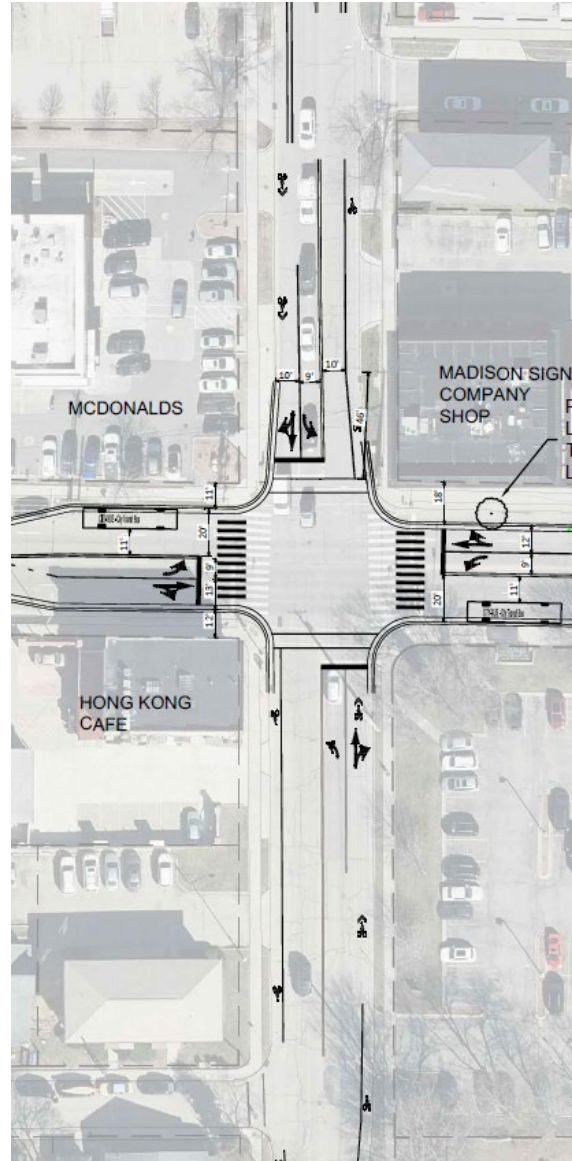
- April 15—Transportation Commission approved the staff-recommended design
 - Two lanes (one in each direction) with left turn lanes
 - Wide sidewalks with parking/delivery zones
 - Dedicated left turn lanes for westbound at Brooks Street and for eastbound at Park Street
- April 22—Board of Public Works modified design
 - Removed the left turn lanes between Brooks Street and Park Street to maintain the existing four-lane configuration
 - BPW modification required TC approval
- Staff identified improvement potential for Mills Street



Mills Street bike lanes

Background

- Separately, staff recommends modifying the Mills Street design based on feedback from previous TC meetings and Mills Street being on the All Ages & Abilities bike network.



Mills Street—Afternoon Signal Operations

			Directional Delay (seconds)			
	v/c	Overall Delay	EB	WB	NB	SB
With left turn lanes	0.82	16 sec	14	13	28	29
No left turn lanes	0.87	23 sec	21	18	33	39

			50 th Queues		95 th Queues	
	v/c	Overall Delay	NB	SB	NB	SB
With left turn lanes	0.82	16 sec	36 ft	52 ft	76 ft	100 ft
No left turn lanes	0.87	23 sec	74 ft	99 ft	121 ft	154 ft

Explanation:

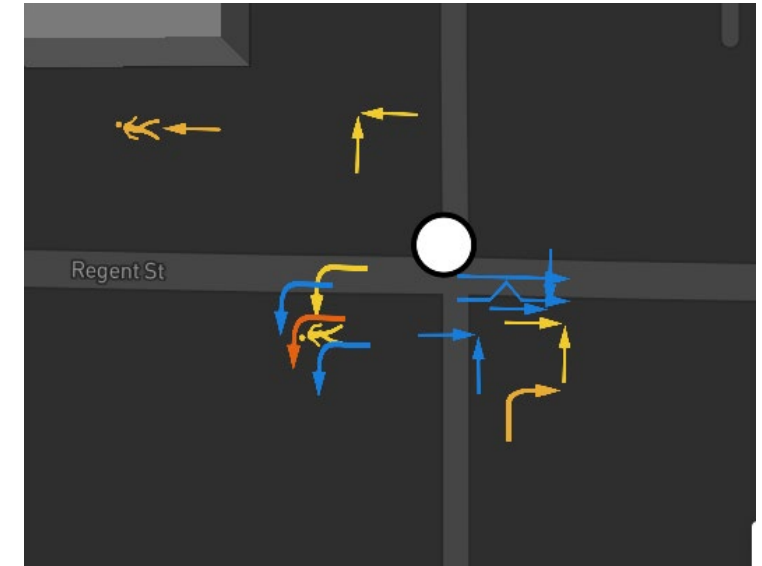
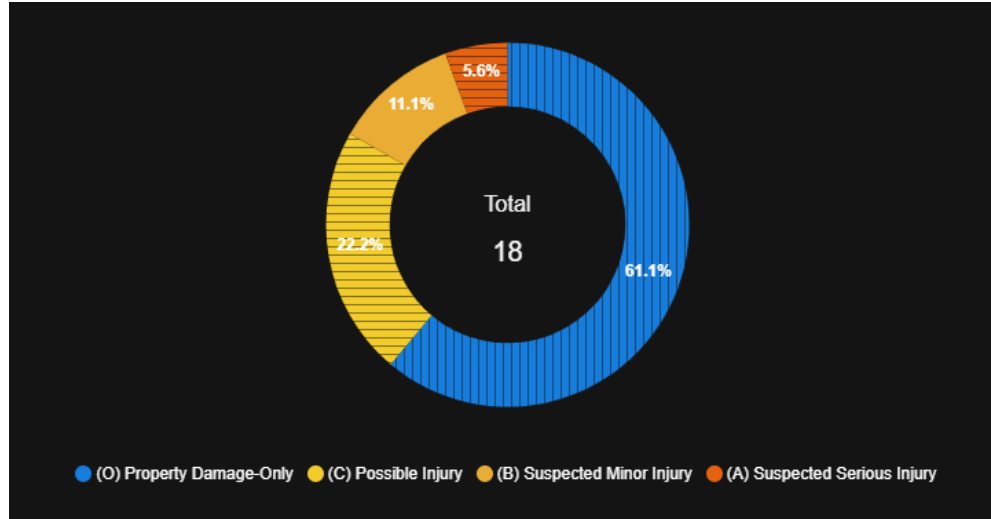
- V/C is Volume/Capacity. A v/c of 1.0 means all green time at the intersection is being used.

Mills Street Summary

- Mills Street is part of the the All Ages & Abilities Bike Network
- Reducing lanes at the intersection allows for tighter corner radii at the northwest and southeast corners
- While queues on Mills Street are expected to be longer than today, upgraded traffic signals with vehicle detection will help manage queues and maintain efficient intersection operations

Brooks Street to Park Street

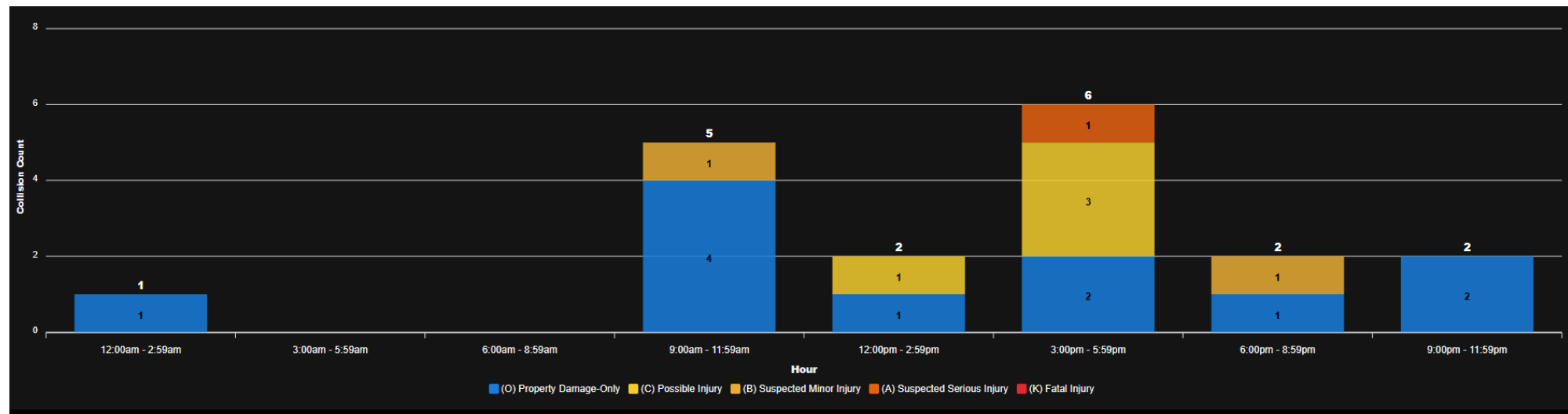
Brooks St Intersection 5-Year Crash History



Total Crash
Count

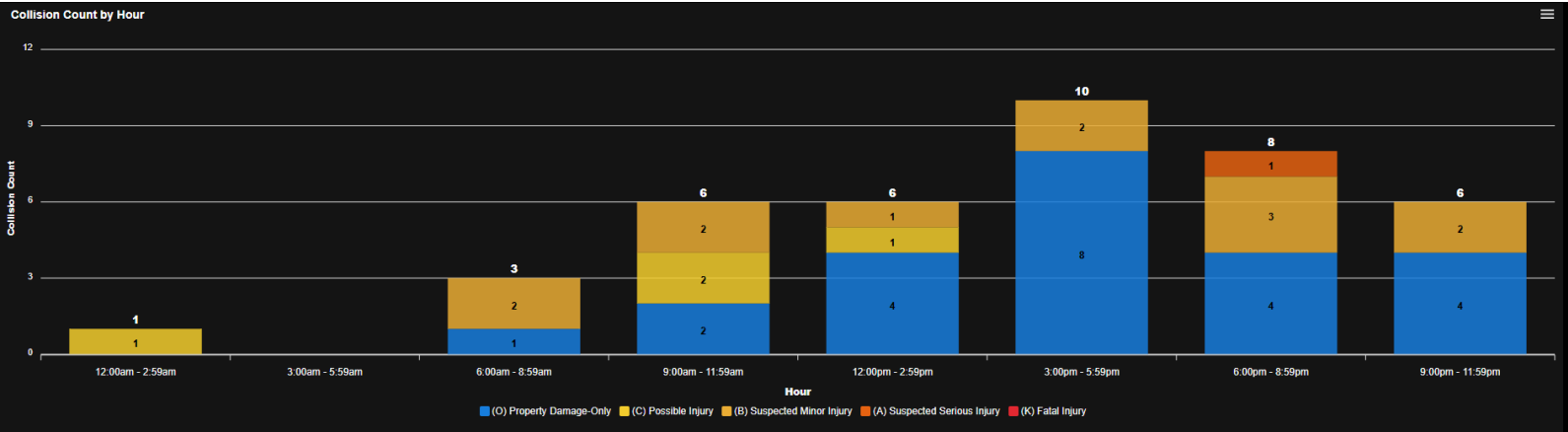
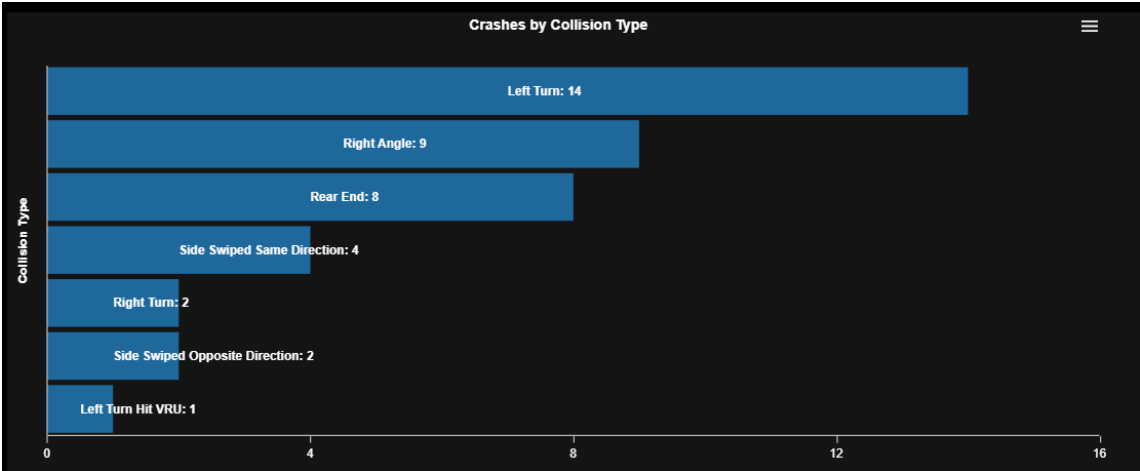
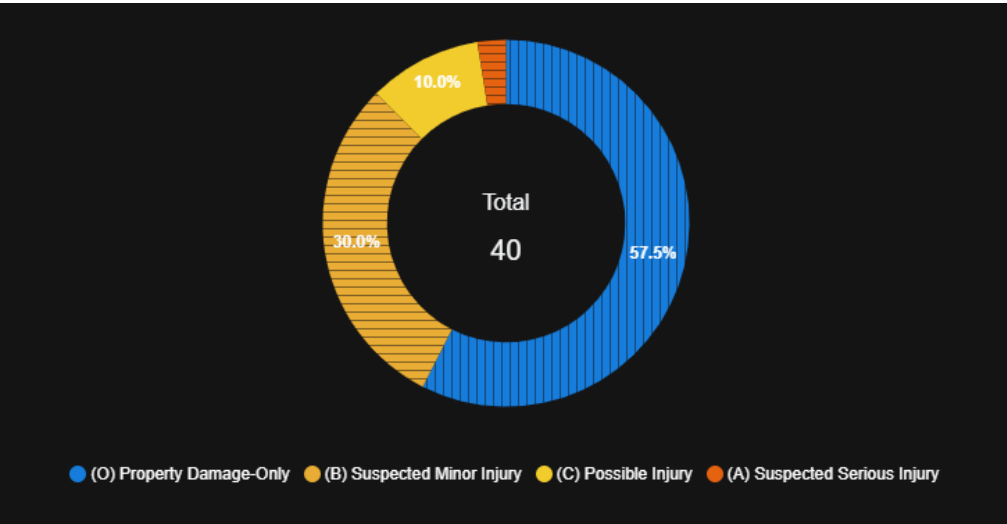
18

- 3rd among 12 intersections in [Ward 58](#)
- 8th among 54 intersections in [Alder District 8](#)
- T-51st among 659 intersections in [Transit Oriented Development Overlay District](#)
- T-113th among all 1,794 intersections in [Madison](#)



Park St Intersection

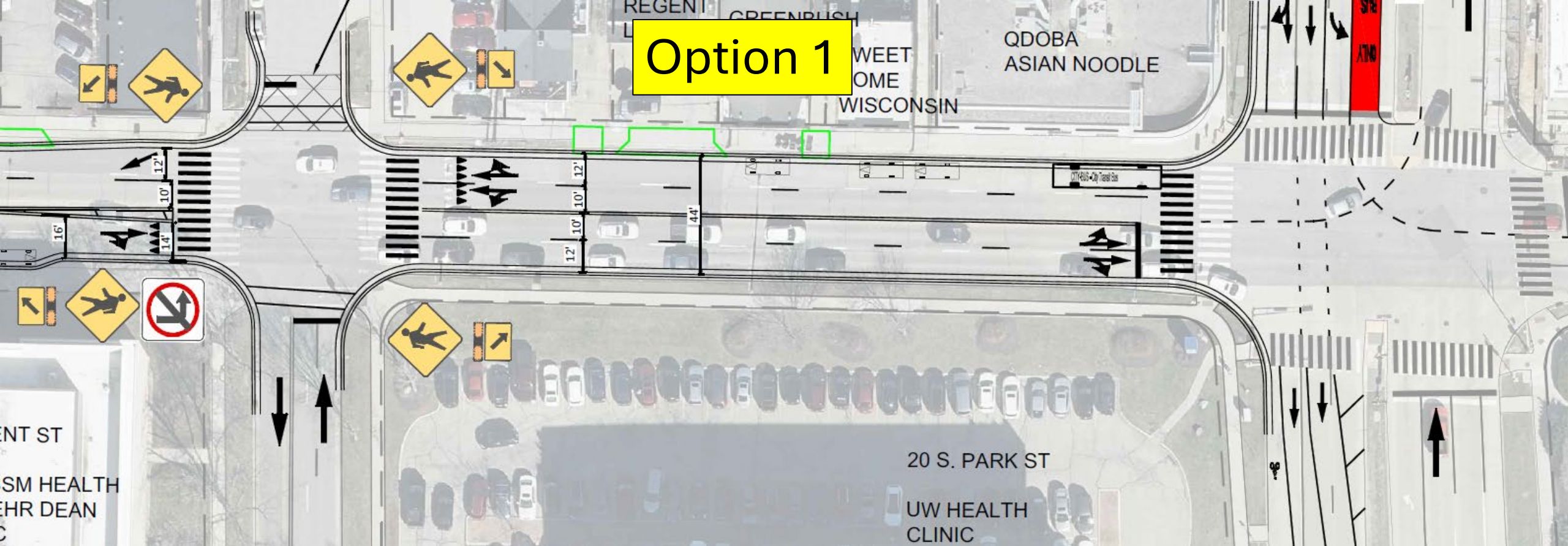
5-Year Crash History



Total Crash Count

40

- 1st among 12 intersections in [Ward 58](#)
- 2nd among 54 intersections in [Alder District 8](#)
- 24th among all 1,794 intersections in [Madison](#)



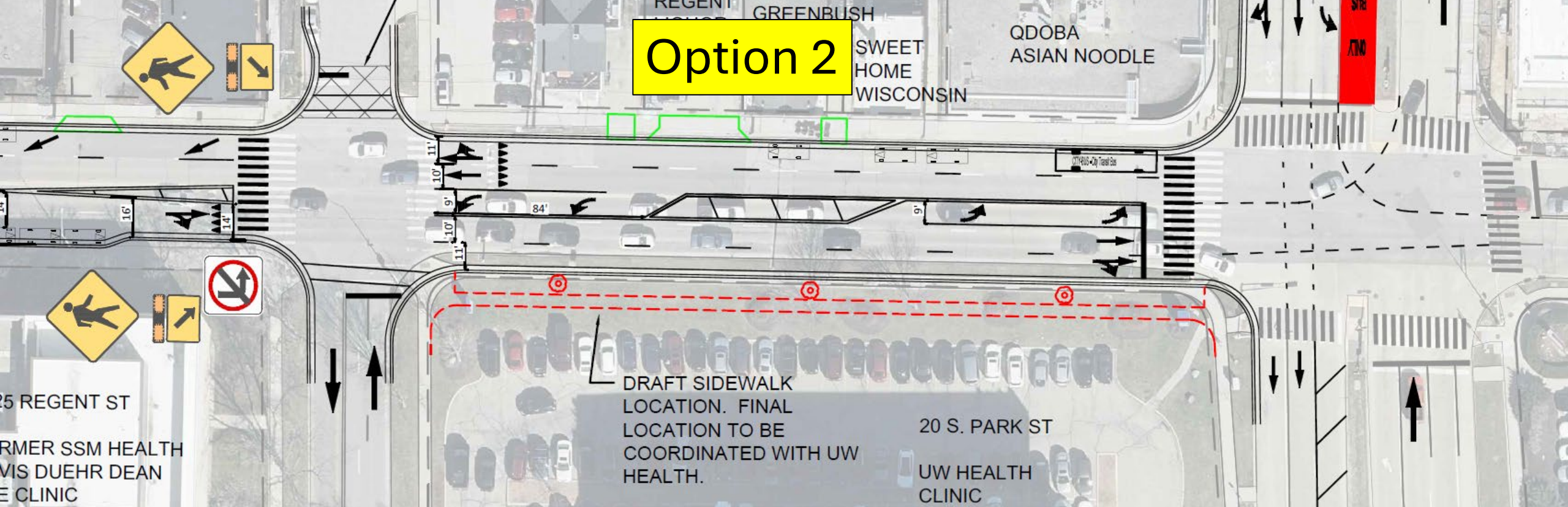
Option 1—Four-lane Configuration

Pros:

- Shortest pedestrian crossing—44' vs 54' today and 54' with the other lane options
- Maintains existing UW Health property and trees
- Maintains both crosswalks at Brooks Street

Cons

- Does not allow for protected-only left turn operations
- Increased crash risk associated with permissive left turns
 - Increased conflicts with peds in north leg crosswalk
 - Increased conflicts with westbound thru traffic
- Greater delay compared to other options
- Queues regularly extend through the Brooks Street intersection



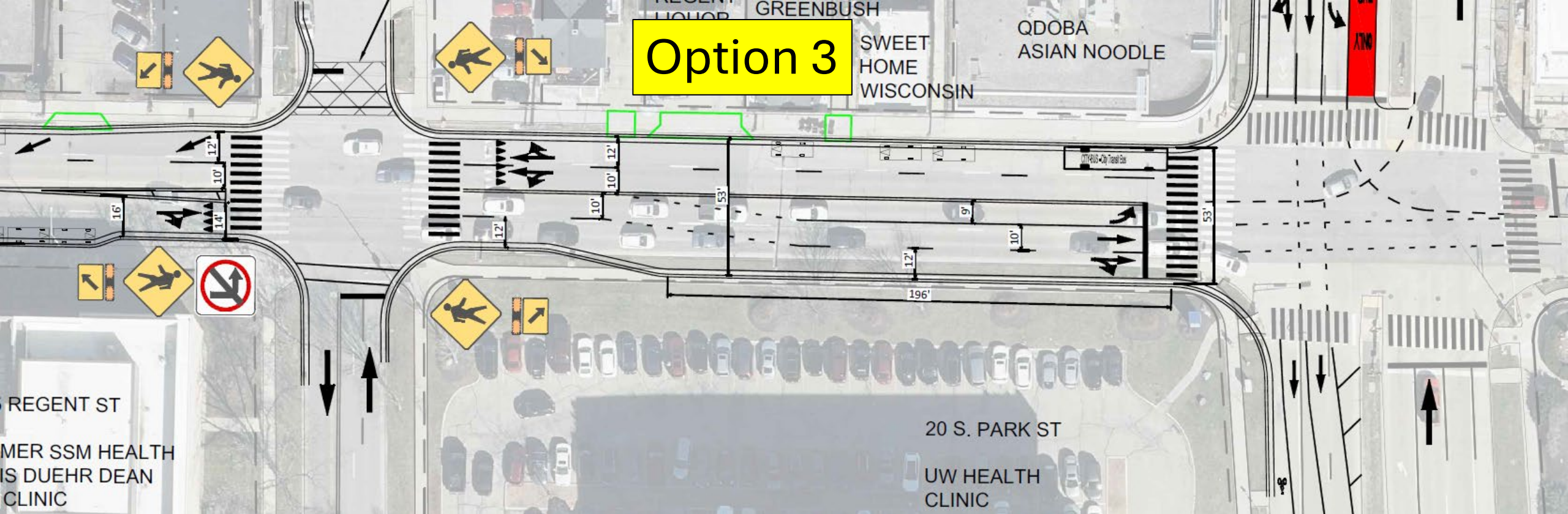
Option 2—Left turn lanes for **both** WB at Brooks Street and EB at Park Street

Pros:

- Allows for protected-only eastbound left turns
- Improves pedestrian safety in the north leg crosswalk
- Reduces crashes associated with eastbound left turns by allowing protected-only left turns
- Reduces congestion and intersection queueing
- Improves future BRT operations and reliability

Cons

- Longer pedestrian crossing of west leg of Park Street (although same as today)
- Reduces UW Health property and tree removal (although trees would be replaced)
- Crosswalk on the east leg of the Brooks Street intersection is longer or removed entirely



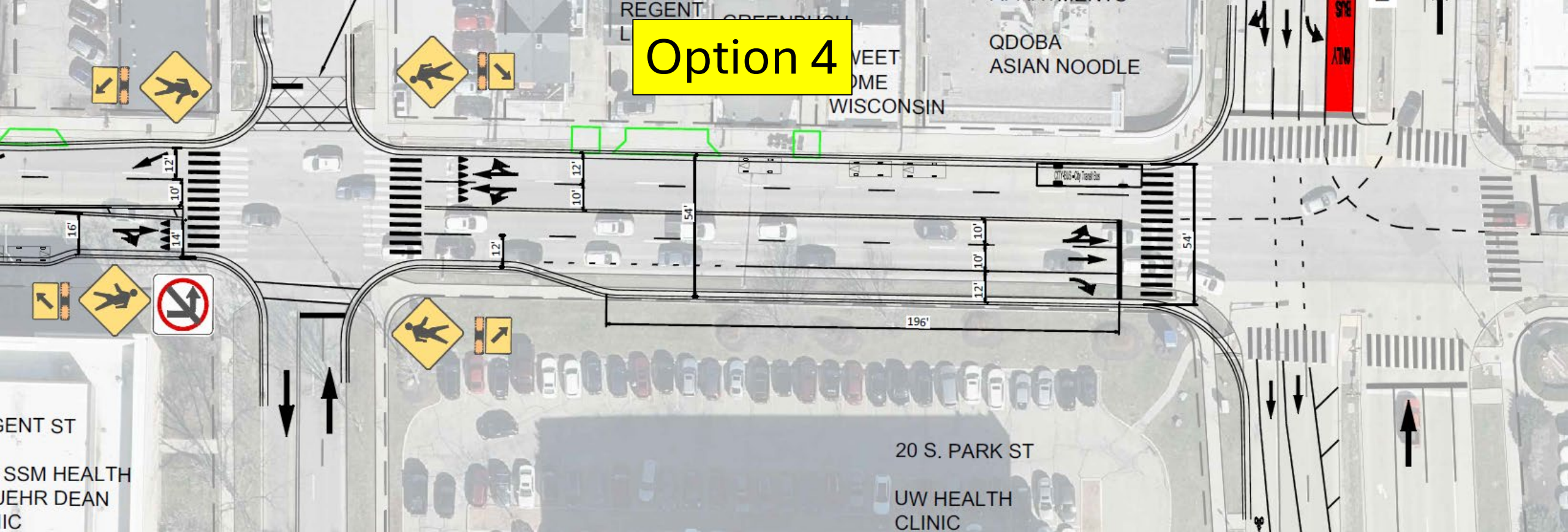
Option 3--Left Turn Lane for EB at Park Street

Pros:

- Maintains both Brooks Street crosswalks
- Improves pedestrian safety in the north leg crosswalk
- Reduces crashes associated with eastbound left turns by allowing protected-only left turn operations
- Reduces congestion and intersection queueing
- Improves future BRT operations and reliability

Cons

- Longer west leg crosswalk compared to the 4-lane option (although same crossing distance as today)
- Likely loss of two existing trees; although those would be replaced



Option 4--Right Turn Lane for EB at Park Street

Pros:

- Shortest eastbound queues
- Keep the Brooks Street intersection clear more often
- Park Street eastbound right turns can be overlapped with northbound left turns for signal operation efficiency
- Maintains both crosswalks at Brooks Street

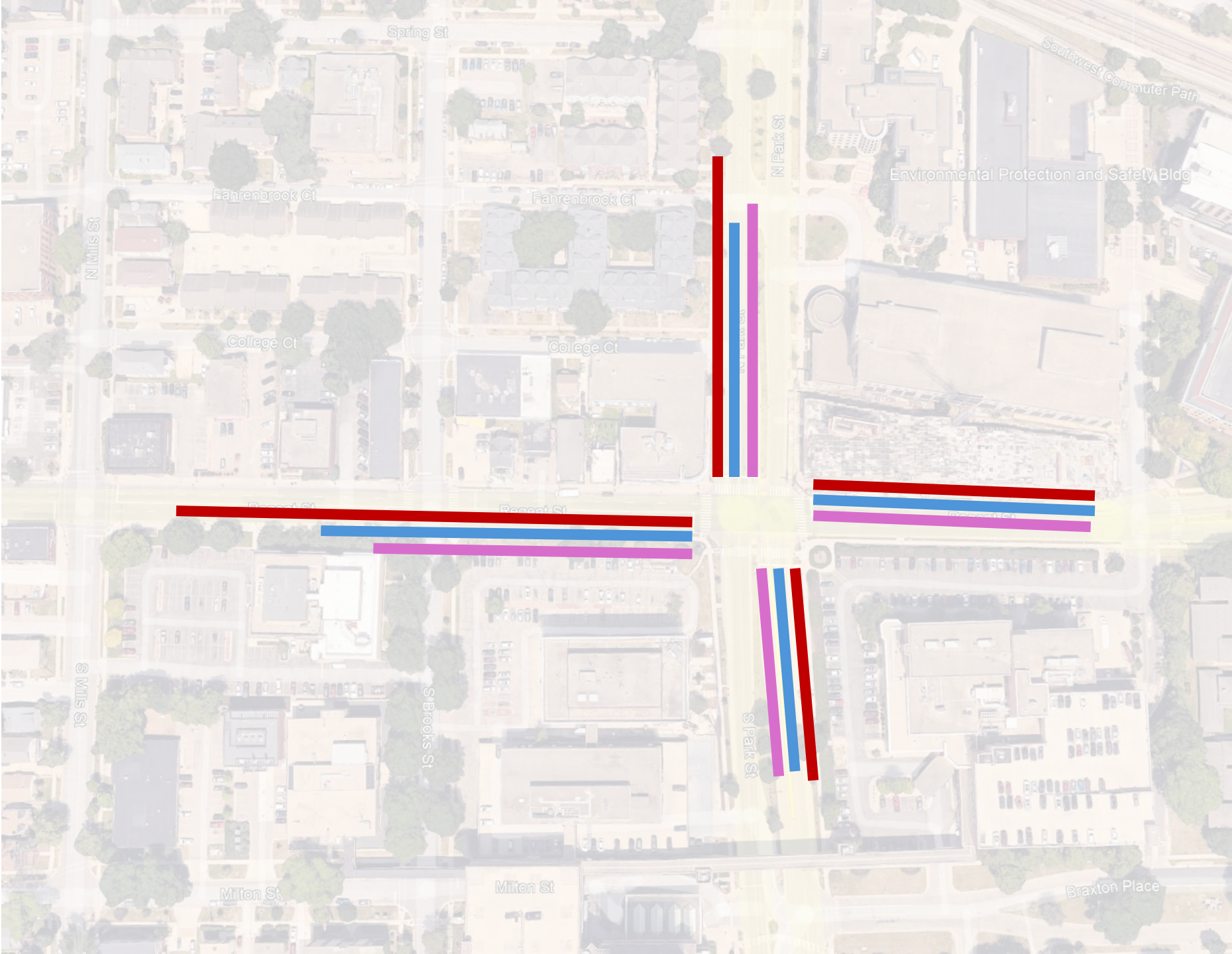
Cons

- Eastbound left turns would remain protected/permissive
- Higher pedestrian conflict risk in the north leg crosswalk compared to protected-only left turns
- Longer west leg Park Street crosswalk distance compared to 4 lane option

95th Percentile Queues

Think of this is the longest reasonably expected line of vehicles waiting at the signal. These queues are only expected to be longer than this 5% of the time.

- Option 1**
Four-Lane
- Options 2 & 3**
Left-Turn Lane
- Option 4**
Right-Turn Lane



50th Percentile Queues

These are the typical queues.
Expect the queues to be longer
than this half of the time and
shorter than this half of the time.



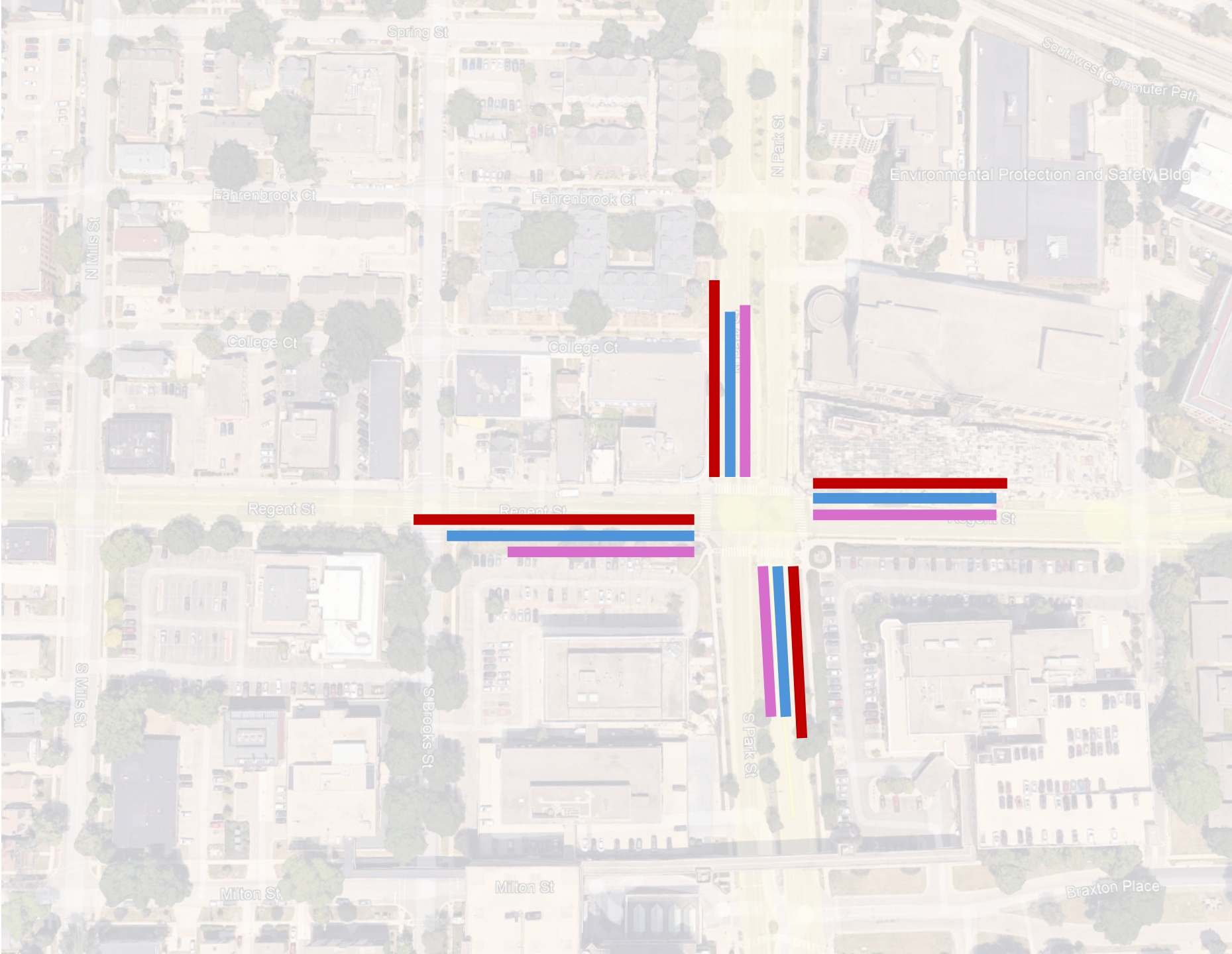
Option 1
Four-Lane



Options 2 & 3
Left-Turn Lane



Option 4
Right-Turn Lane



Delays

REGENT STREET & PARK STREET OPERATIONS (PM PEAK)													
	Cycle Length	Overall			APPROACH VEHICLE DELAY					PEDESTRIAN DELAY			
	(Seconds)	DELAY	V/C		EB	WB	NB	SB		EB	WB	NB	SB
Option 1----Four Lane	130-FREE	52	0.98		45	37	52	79		44.9	46.5	55.4	53.6
Options 2 & 3----Add Left-Turn Only	120-FREE	39	0.79		29	41	44	50		36.8	41.7	50.4	48.6
Option 4----Add Right-Turn Only	120-FREE	39	0.85		24	39	47	56		36.0	41.7	50.4	48.6

Explanation:

- Cycle length represents all signal phases maxed out
- Pedestrian delay represents worst-case scenario for peds arriving at the intersection
- Option 1 requires longer signal phases which leads to higher pedestrian delay
- V/C is Volume/Capacity. A v/c of 1.0 means all green time at the intersection is being used.

Staff Recommendation

Although the west leg crosswalk would be longer, staff recommends adding a dedicated left-turn lane at Park Street. The operational and safety benefits of a **protected-only left-turn** phase at this intersection outweigh the drawback of the longer crossing distance compared to the four-lane option. This crosswalk distance would remain the same as it is today and overall intersection pedestrian delay would be lower.

Key Benefits

- Eliminates conflicts between eastbound left-turning vehicles and pedestrians in the north crosswalk
- Improves eastbound through traffic operations and reduces sideswipe and rear-end crash potential
- Improves future North/South Bus Rapid Transit reliability and performance

Two Recommended Motions

Move to approve the Mills Street lane configuration of a single lane in each direction and bike lanes continuing to the Regent Street intersection.

Move to approve the lane configuration between Brooks Street and Park Street which includes _____.

- *Option 1—The four-lane configuration*
- *Option 2—Both a westbound dedicated left turn lane at Brooks Street and an eastbound dedicated left-turn lane at Park Street*
- *Option 3—An eastbound dedicated left turn lane at Park Street*
- *Option 4—An eastbound dedicated right turn lane at Park Street*