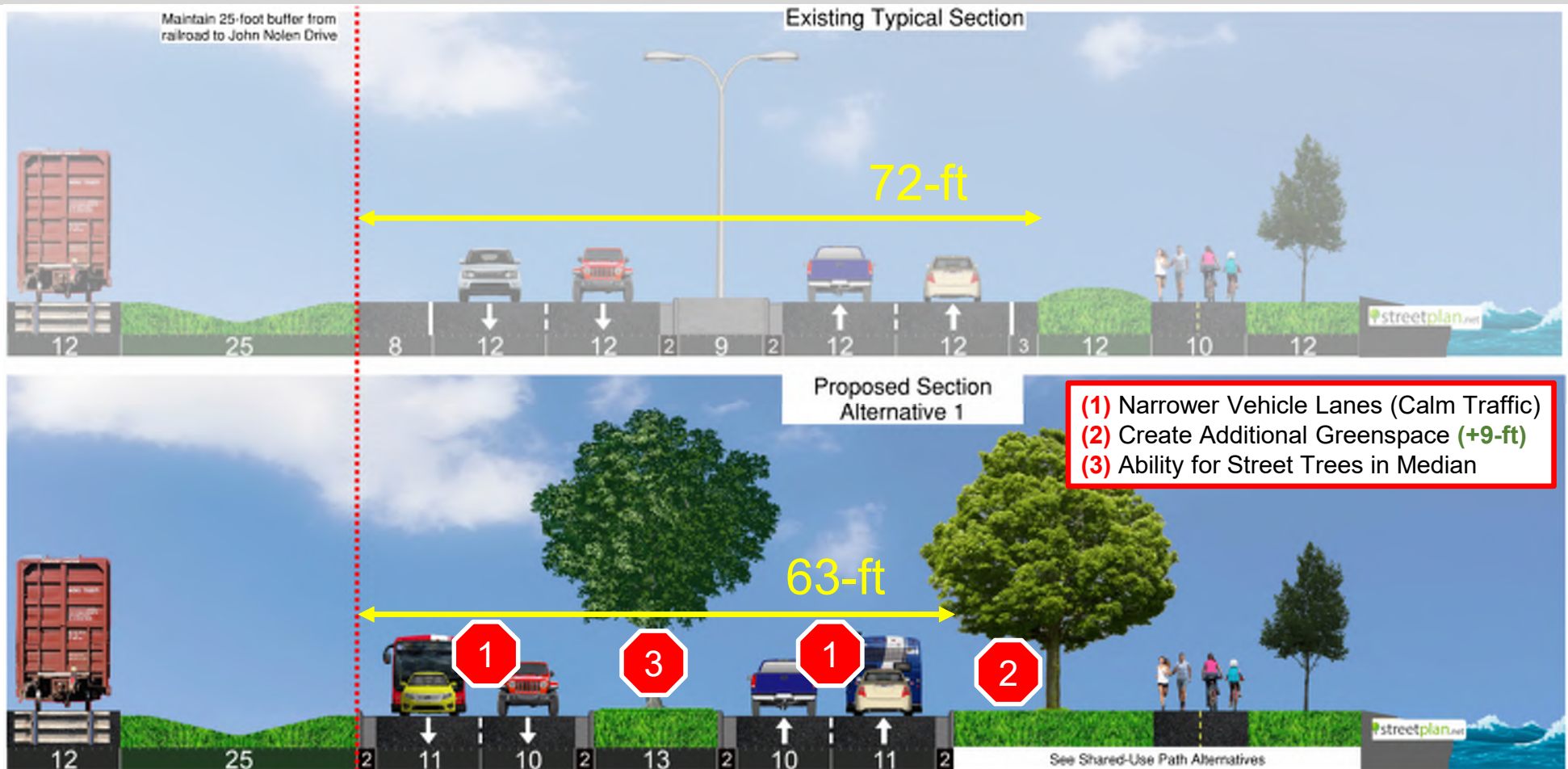




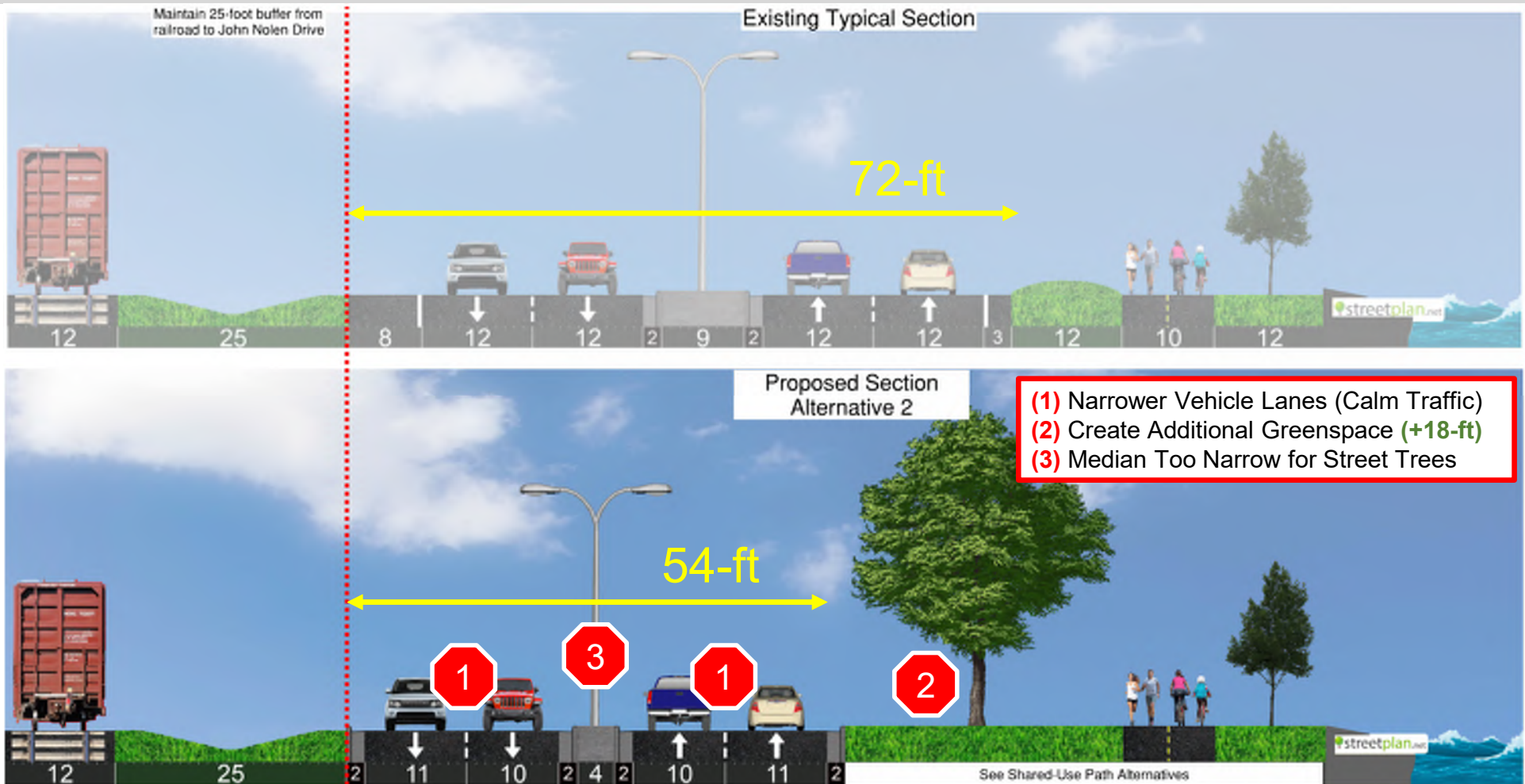
John Nolen Drive Alternatives



Roadway Typical Sections – Alt 1 (Wide Median)



Roadway Typical Sections – Alt 2 (Narrow Median)



Roadway Typical Sections – POLLING

	NOTES	DETAILS
EXISTING (No Change)	72-ft Roadway Width No Trees in Median	 <p>Existing Typical Section</p> <p>72-ft</p>
ALT 1	63-ft Roadway Width Wider Median Trees in Median Balance Green Space	 <p>Proposed Section Alternative 1</p> <p>63-ft</p> <p>See Shared Use Path Alternatives</p>
ALT 2	54-ft Roadway Width Narrower Median No Trees in Median Max Green Space to Park	 <p>Proposed Section Alternative 2</p> <p>54-ft</p> <p>See Shared Use Path Alternatives</p>

Pathway Typical Sections – Existing



- (1) Safety (No “Barrier” from Vehicles)
- (2) Capacity (Too Narrow - Congested)
- (3) Experience (Mix of User Speeds on Path)



Pathway Typical Sections – Alt 1 (Wide Shared-Use)

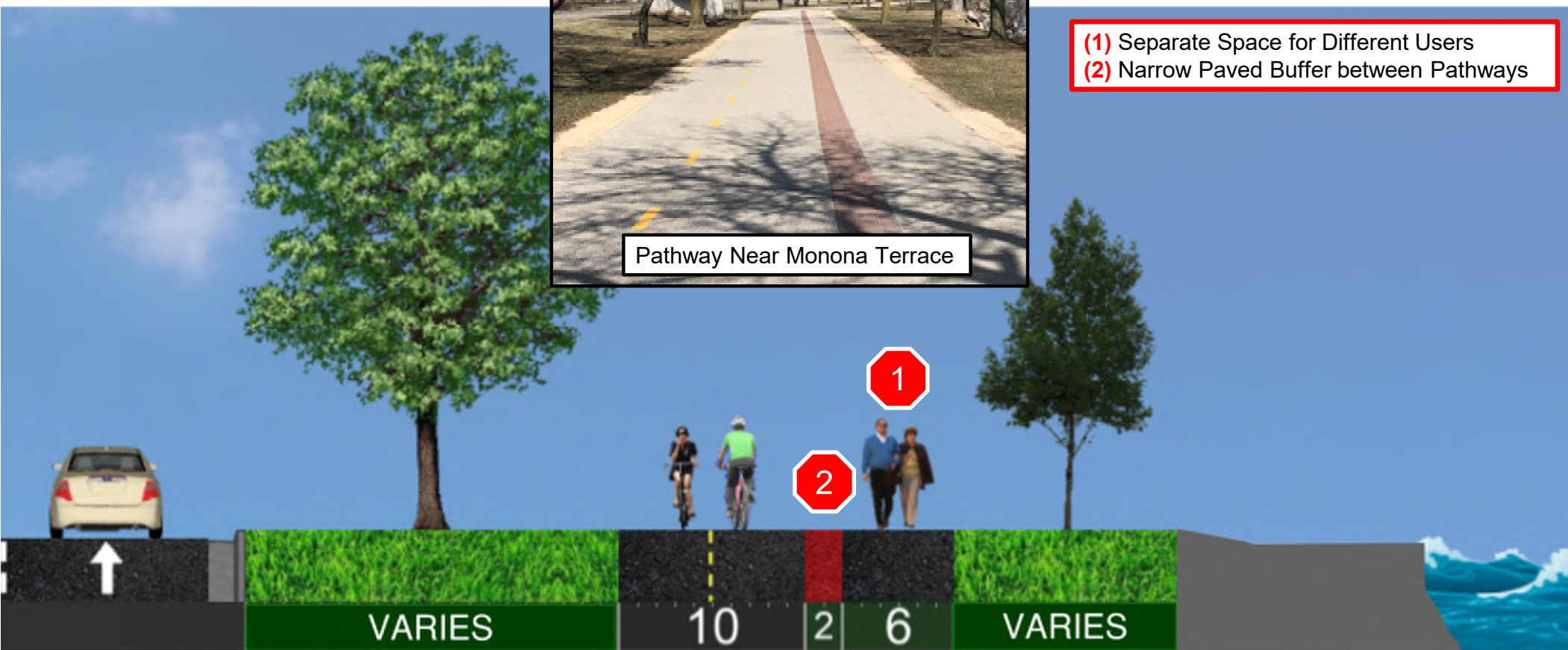


Pathway Typical Sections – Alt 2 (Separate w/ Buffer)

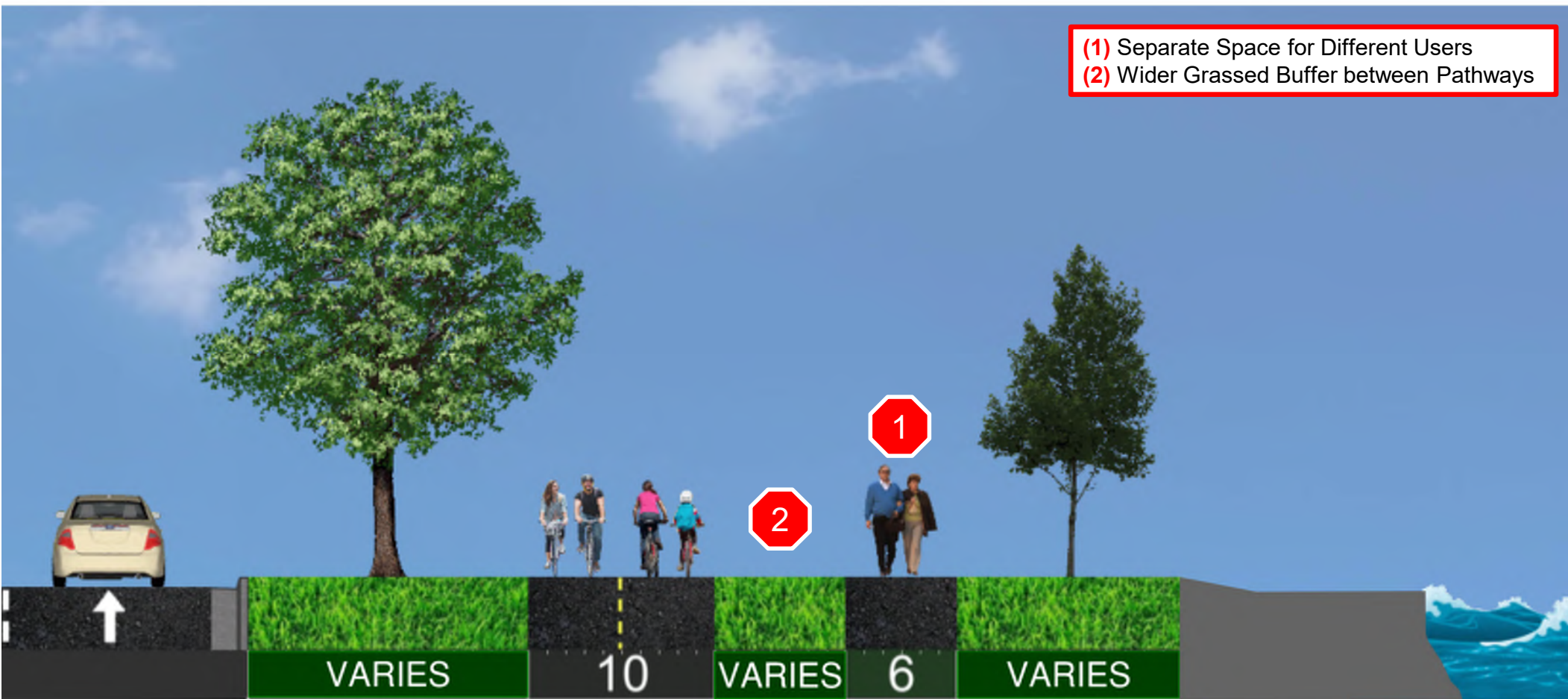


Pathway Near Monona Terrace

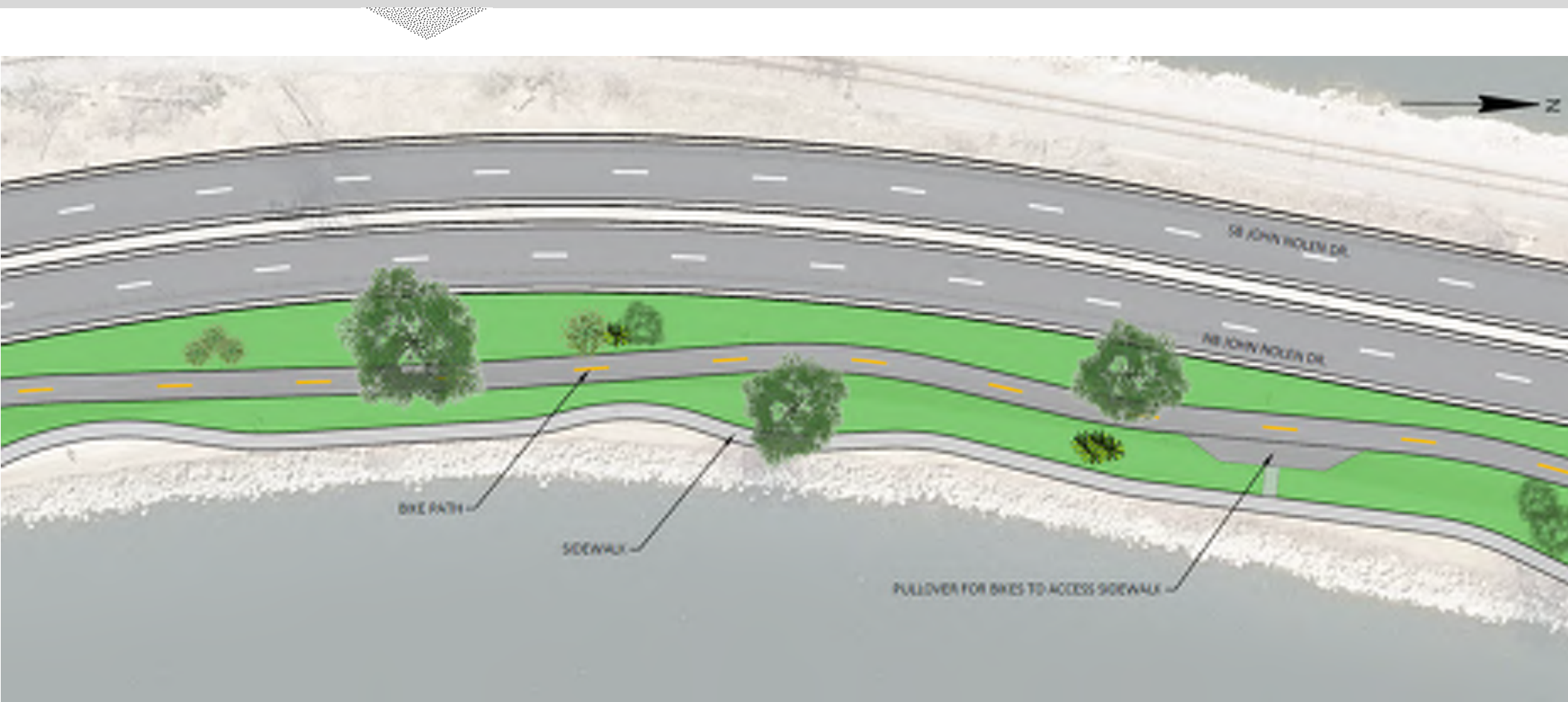
- (1) Separate Space for Different Users
- (2) Narrow Paved Buffer between Pathways







Pathway Typical Sections – Alt 3 (Separate Pathways)



Conceptual Pathway

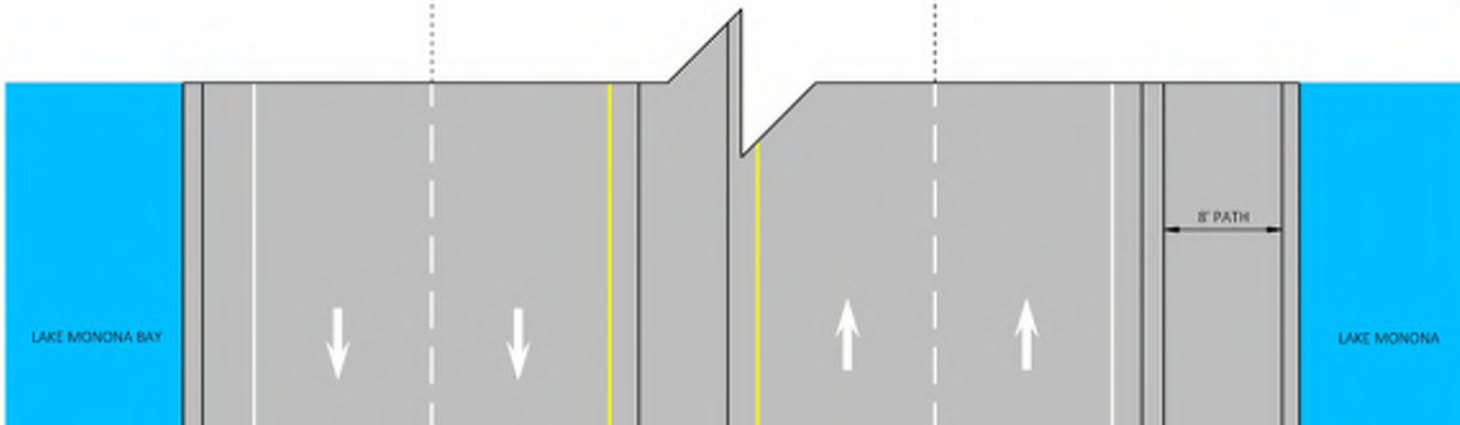
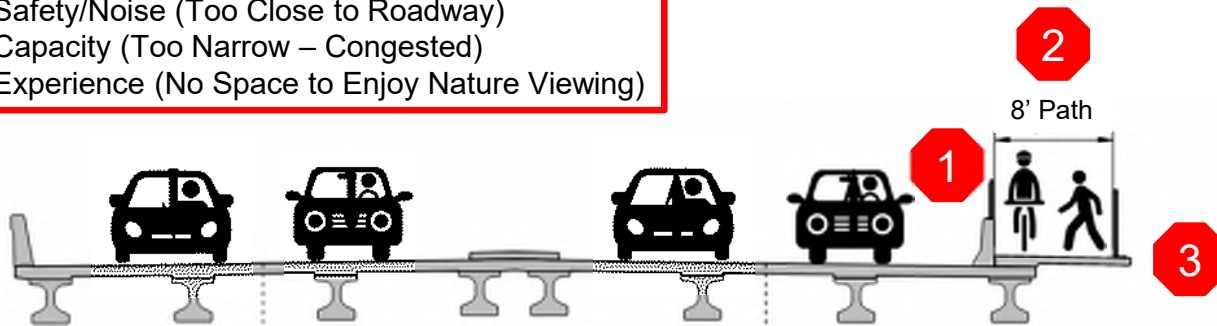


Pathway Typical Sections – POLLING

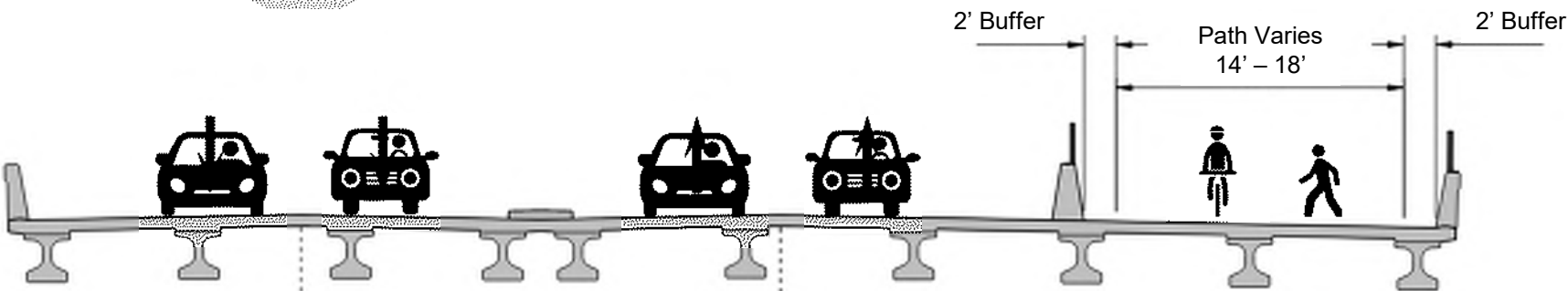
	NOTES	DETAILS
EXISTING (No Change)	10-ft Width	
ALT 1	14-ft Width	
ALT 2	10-ft & 6-ft Width w/ 2-ft Paved Buffer	
ALT 3	10-ft & 6-ft Width w/ Wider Grass Buffer	

Pathway Bridge Sections – Existing

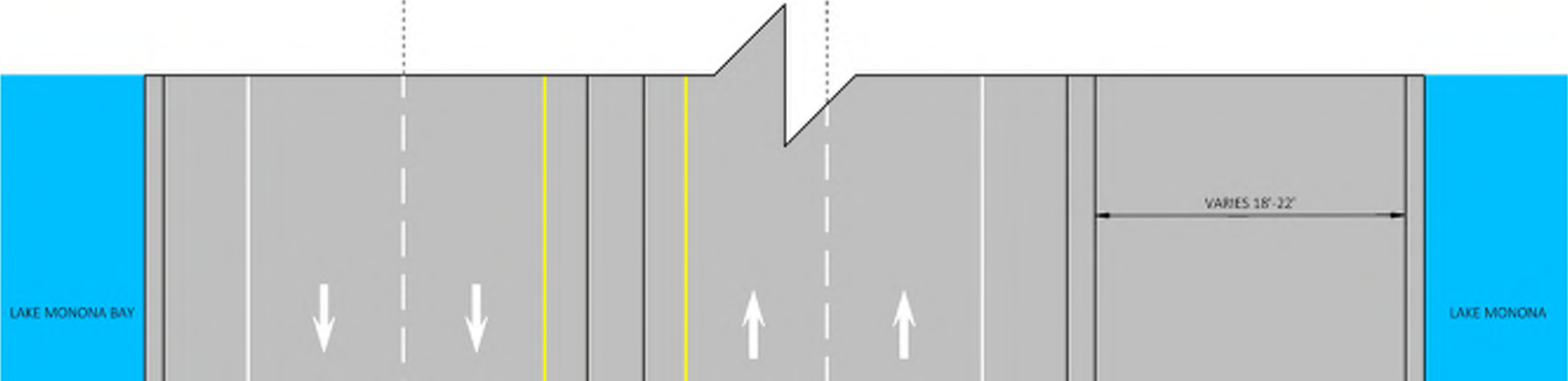
- (1) Safety/Noise (Too Close to Roadway)
- (2) Capacity (Too Narrow – Congested)
- (3) Experience (No Space to Enjoy Nature Viewing)



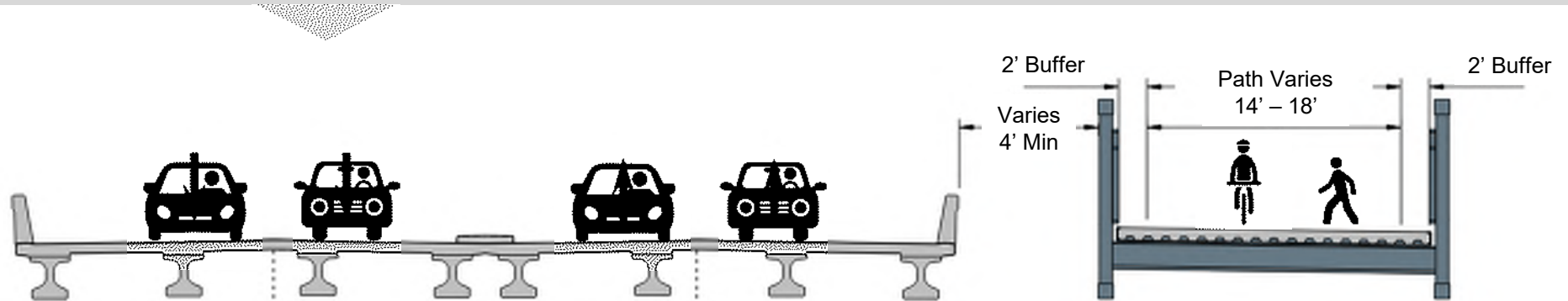
Pathway Bridge Sections – Alt 1 (Combined Structure)



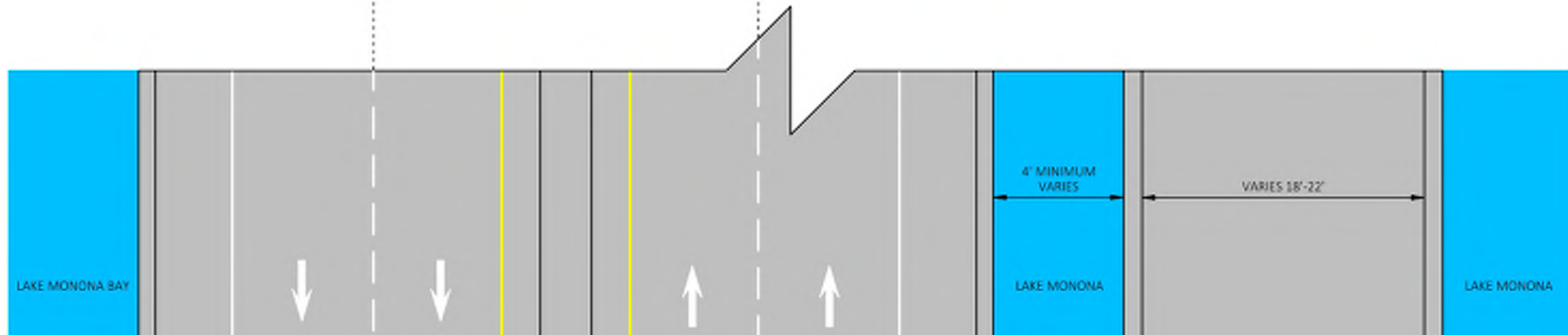
Note: Pathway Bridge is Pre-Stressed Concrete Girder Style
(Same as Roadway Bridge)



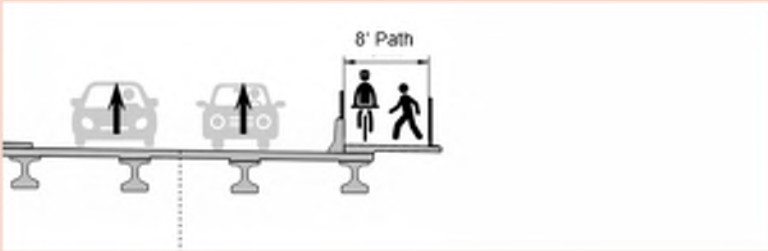
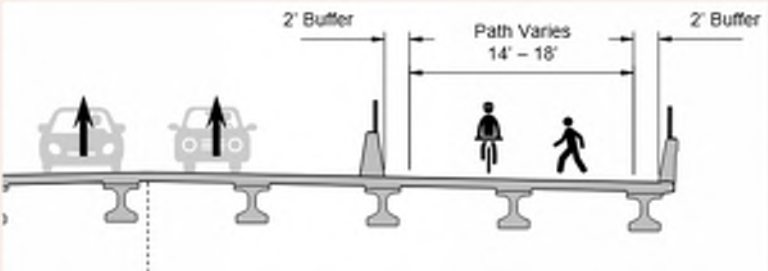
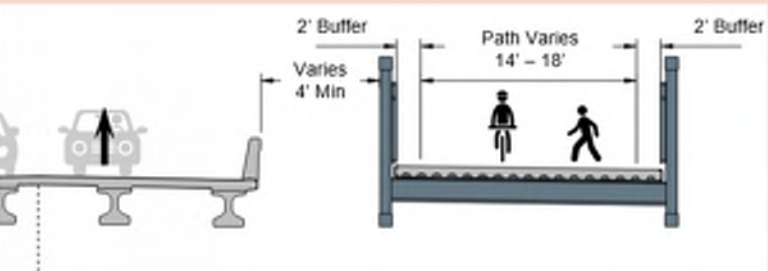
Pathway Bridge Sections – Alt 2 (Separate Structures)



Note: Pathway Bridge is Pre-Fabricated Truss Style
(~5% - 15% Cost Savings vs Roadway Bridge)



Pathway Bridge Sections – POLLING

	NOTES	DETAILS
EXISTING (No Change)	Narrow Width Attached to Roadway Structure	 A cross-section diagram of a narrow bridge. It shows two vehicle lanes with upward arrows. To the right, a narrow path for a pedestrian and a cyclist is labeled '8' Path'.
ALT 1	Attached to Roadway Structure	 A cross-section diagram of a bridge section attached to the roadway structure. It shows two vehicle lanes. To the right, a wider path for a pedestrian and a cyclist is shown, labeled 'Path Varies 14' - 18''. The path is flanked by '2' Buffer' zones on both sides.
ALT 2	Separated from Roadway Structure	 A cross-section diagram of a bridge section separated from the roadway structure. It shows a vehicle lane. To the right, a separate bridge structure carries a path for a pedestrian and a cyclist, labeled 'Path Varies 14' - 18''. This path is flanked by '2' Buffer' zones. A gap between the roadway and the path bridge is labeled 'Varies 4' Min'.

North Shore Drive Intersection – Existing

- (1) Wide Large Radii Right Turn into Dedicated Merge Lane
- (2) Limited Access to Brittingham Park
- (3) Single Crossing of John Nolen Drive
- (4) Wide Large Radii Right Turn

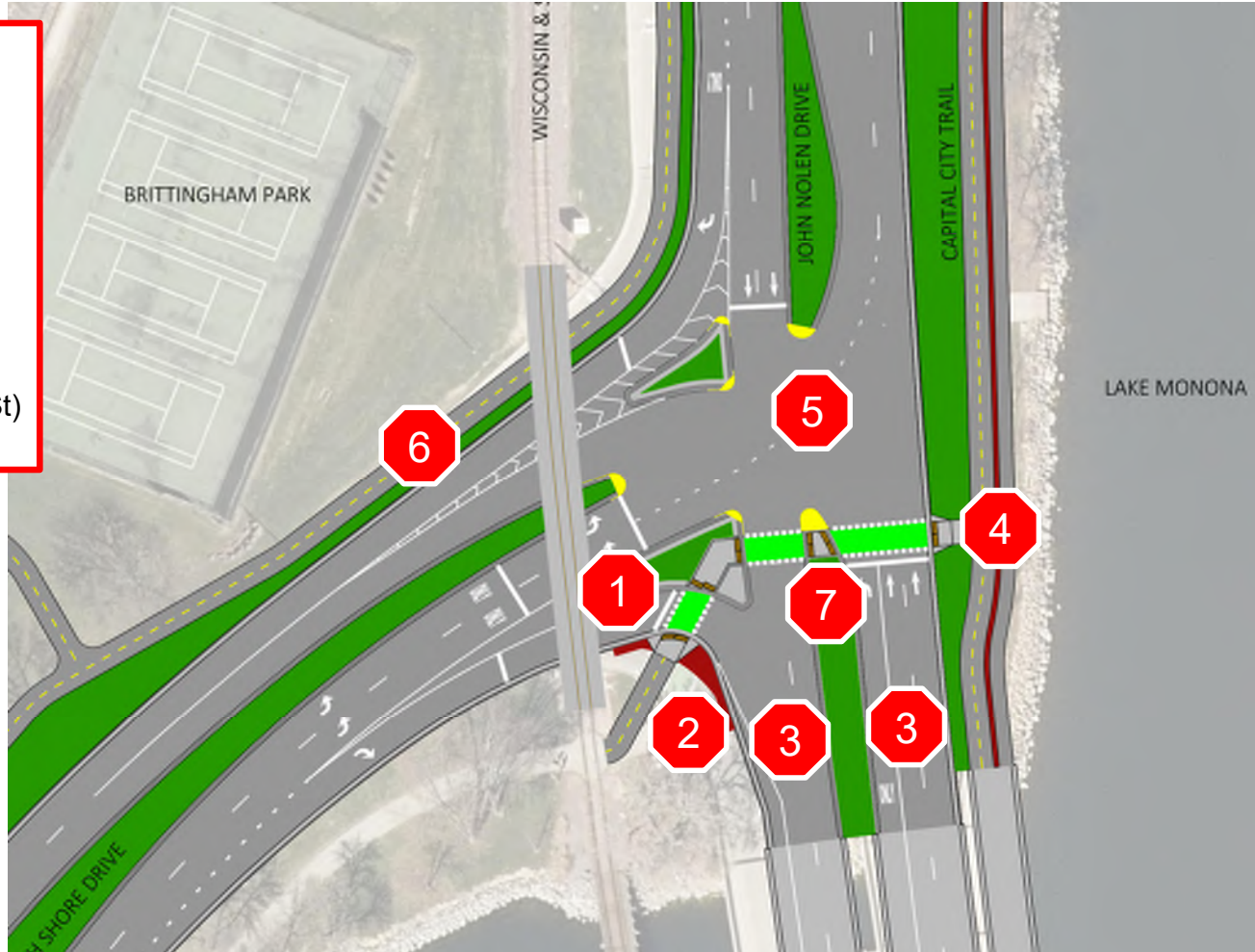
(+) October 2022 Cyclist Fatality



North Shore Drive Intersection – Alt 1 (Single Crossing w/ Island)

- (1) Smaller Radius Intersection to Calm Traffic (Remove Merge Lane)
- (2) Tracking Pavement for Larger Turning Vehicles
- (3) Narrower Roadway Lanes to Calm Traffic (Reduced Pavement)
- (4) Single Crossing of John Nolen Drive (Single-Stage) (Reduced 14-ft)
- (5) Traffic Signal with Head per Lane (Increased Driver Awareness & Compliance)
- (6) Pathway with Access to Brittingham Park (Connections to Bedford St, Bassett St, & Broom St)
- (7) Improved Median Refuge

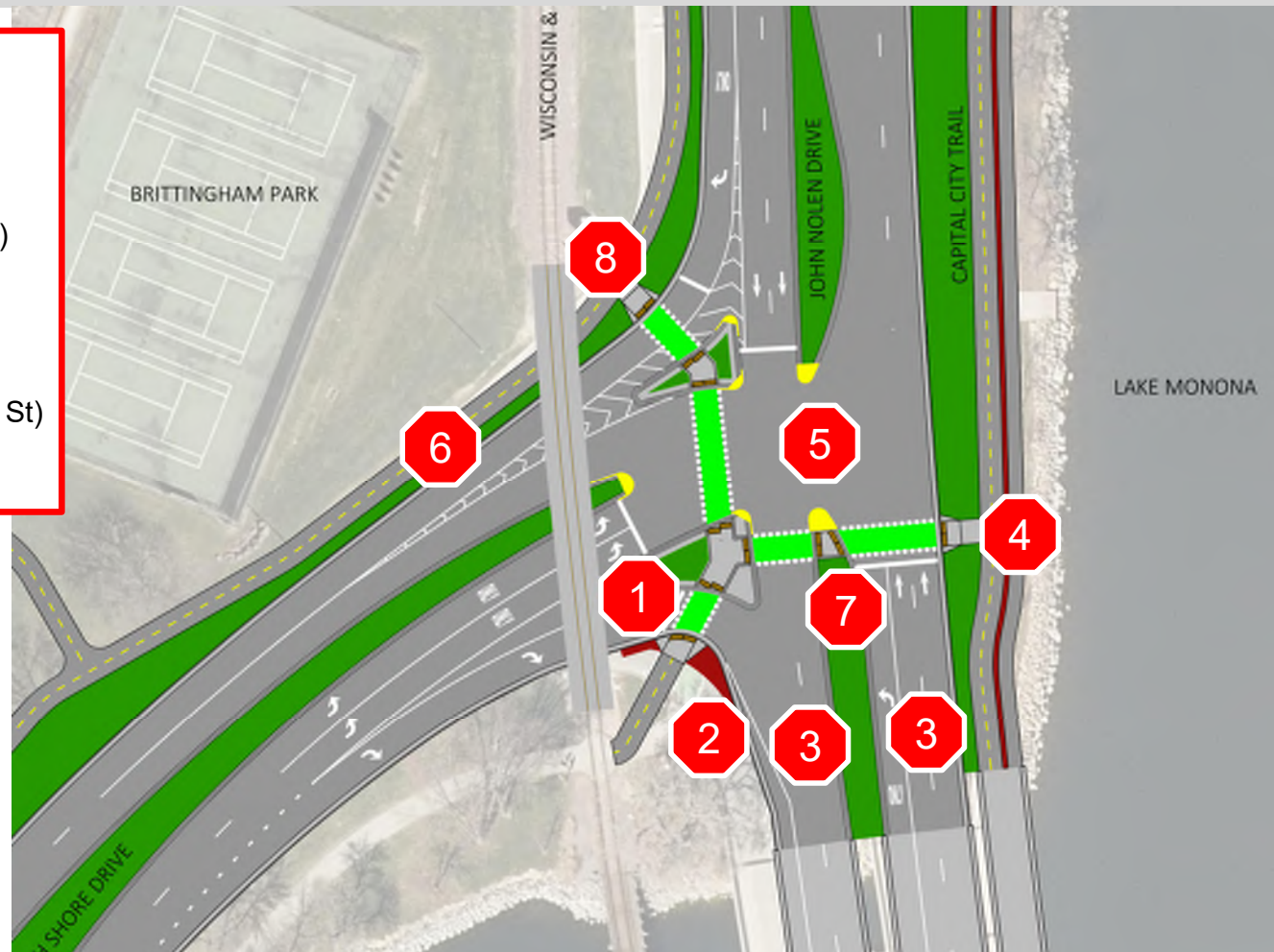
	ADDITIONAL OPERATIONAL DELAY PER VEHICLE (SECONDS)	
	JND	NSD
ALT 1	---	+5
ALT 2	---	+5
ALT 3	+10	---
ALT 4	+35	+80



North Shore Drive Intersection – Alt 2 (Single “L” Crossing w/ Islands)

- (1) Smaller Radius Intersection to Calm Traffic (Remove Merge Lane)
- (2) Tracking Pavement for Larger Turning Vehicles
- (3) Narrower Roadway Lanes to Calm Traffic (Reduced Pavement)
- (4) Single Crossing of John Nolen Drive (Single Stage) (Reduced 14-ft)
- (5) Traffic Signal with Head per Lane (Increased Driver Awareness & Compliance)
- (6) Pathway with Access to Brittingham Park (Connections to Bedford St, Bassett St, & Broom St)
- (7) Improved Median Refuge
- (8) Crossing of North Shore Drive

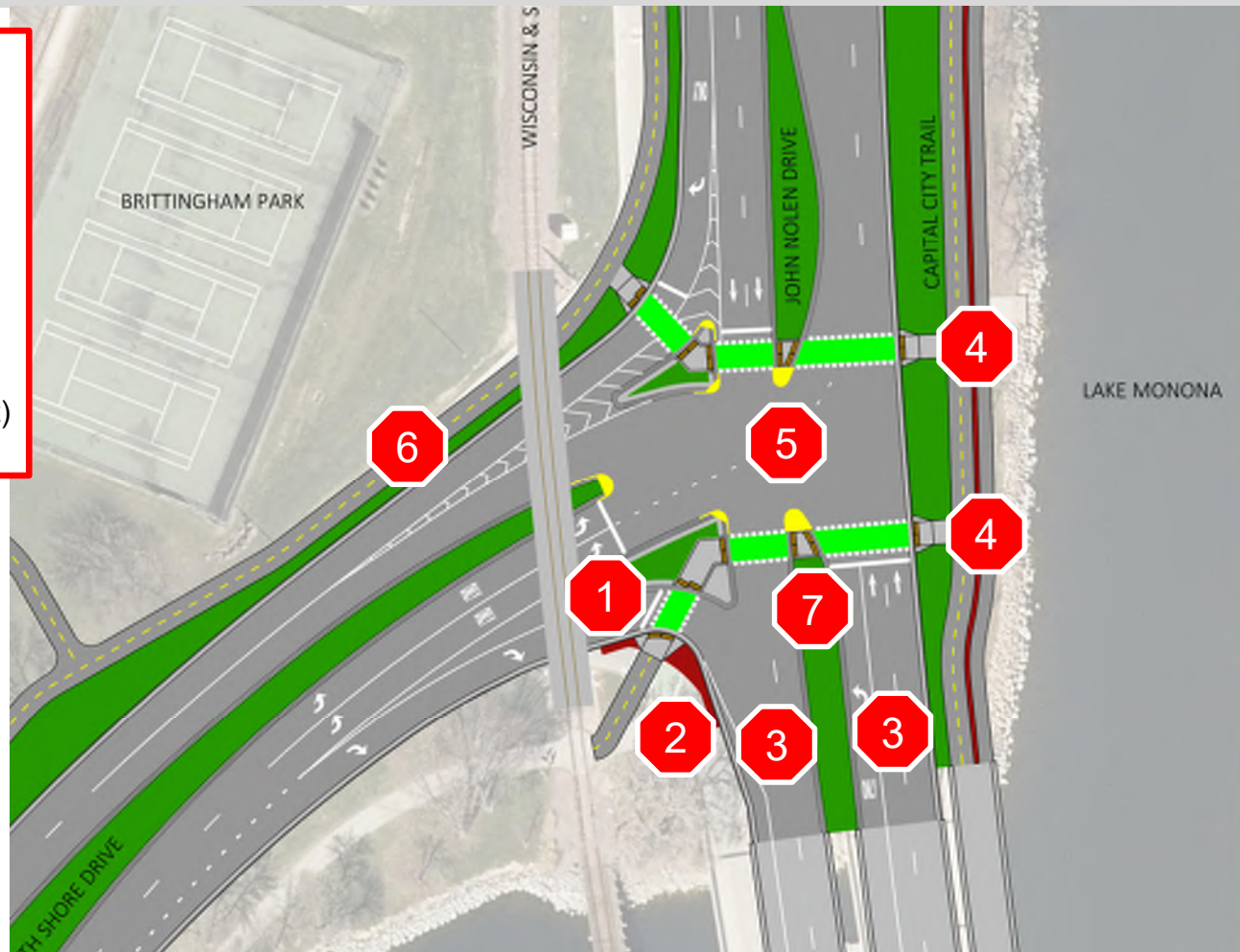
	ADDITIONAL OPERATIONAL DELAY PER VEHICLE (SECONDS)	
	JND	NSD
ALT 1	---	+5
ALT 2	---	+5
ALT 3	+10	---
ALT 4	+35	+80



North Shore Drive Intersection – Alt 3 (Dual Crossings w/ Islands)

- (1) Smaller Radius Intersection to Calm Traffic (Remove Merge Lane)
- (2) Tracking Pavement for Larger Turning Vehicles
- (3) Narrower Roadway Lanes to Calm Traffic (Reduced Pavement)
- (4) Dual Crossings of John Nolen Drive (Single Stage) (Reduced 14-ft)
- (5) Traffic Signal with Head per Lane (Increased Driver Awareness & Compliance)
- (6) Pathway with Access to Brittingham Park (Connections to Bedford St, Bassett St, & Broom St)
- (7) Improved Median Refuge

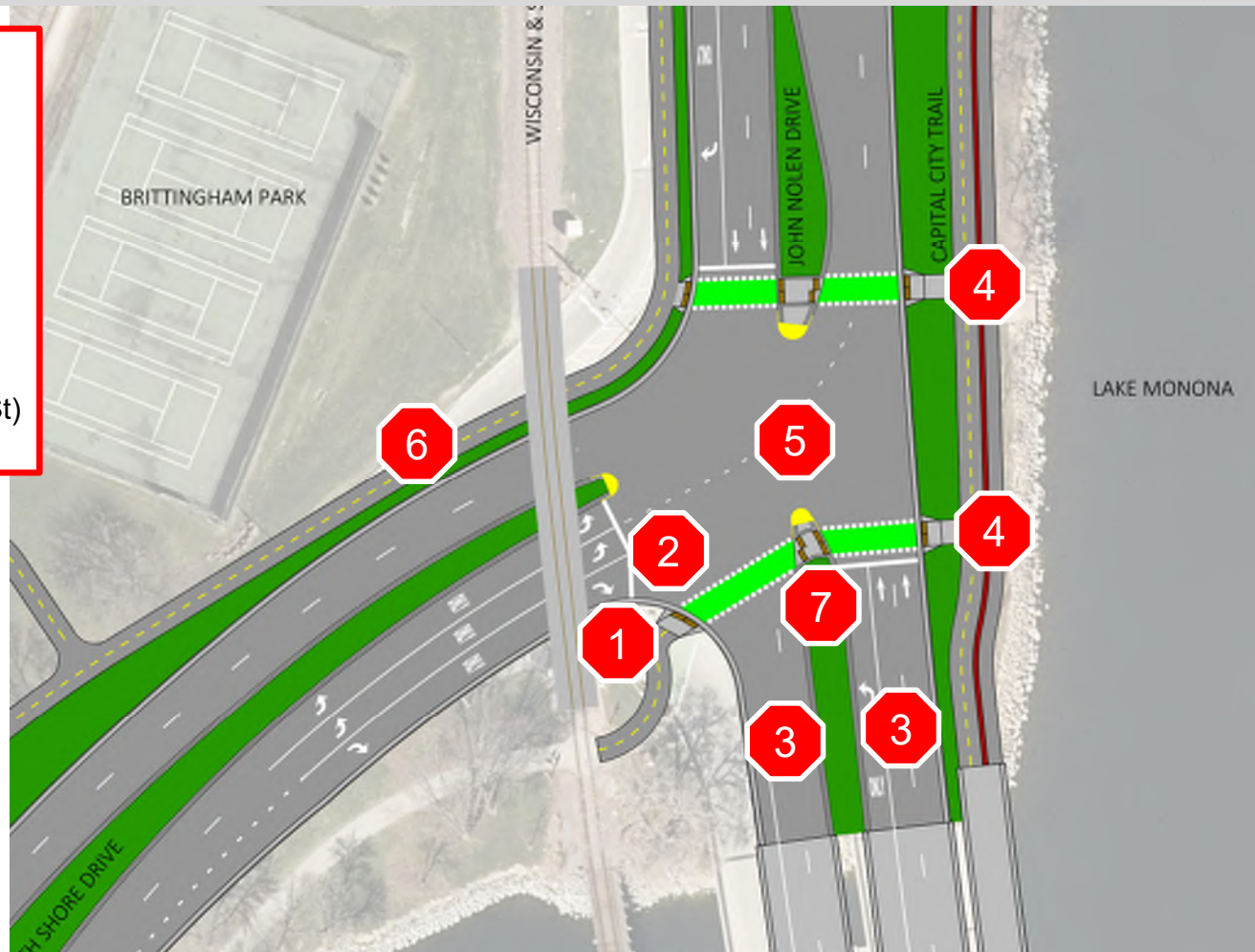
	ADDITIONAL OPERATIONAL DELAY PER VEHICLE (SECONDS)	
	JND	NSD
ALT 1	---	+5
ALT 2	---	+5
ALT 3	+10	---
ALT 4	+35	+80



North Shore Drive Intersection – Alt 4 (Dual Crossings w/o Islands)

- (1) Larger Radius for Turning Vehicles
(Remove Merge Lane)
- (2) Curbed Island (Channelized Right) Removed
- (3) Narrower Roadway Lanes to Calm Traffic
(Reduced Pavement)
- (4) Dual Crossings of John Nolen Drive (Single Stage)
(Reduced 14-ft)
- (5) Traffic Signal with Head per Lane
(Increased Driver Awareness & Compliance)
- (6) Pathway with Access to Brittingham Park
(Connections to Bedford St, Bassett St, & Broom St)
- (7) Improved Median Refuge

	ADDITIONAL OPERATIONAL DELAY PER VEHICLE (SECONDS)	
	JND	NSD
ALT 1	---	+5
ALT 2	---	+5
ALT 3	+10	---
ALT 4	+35	+80

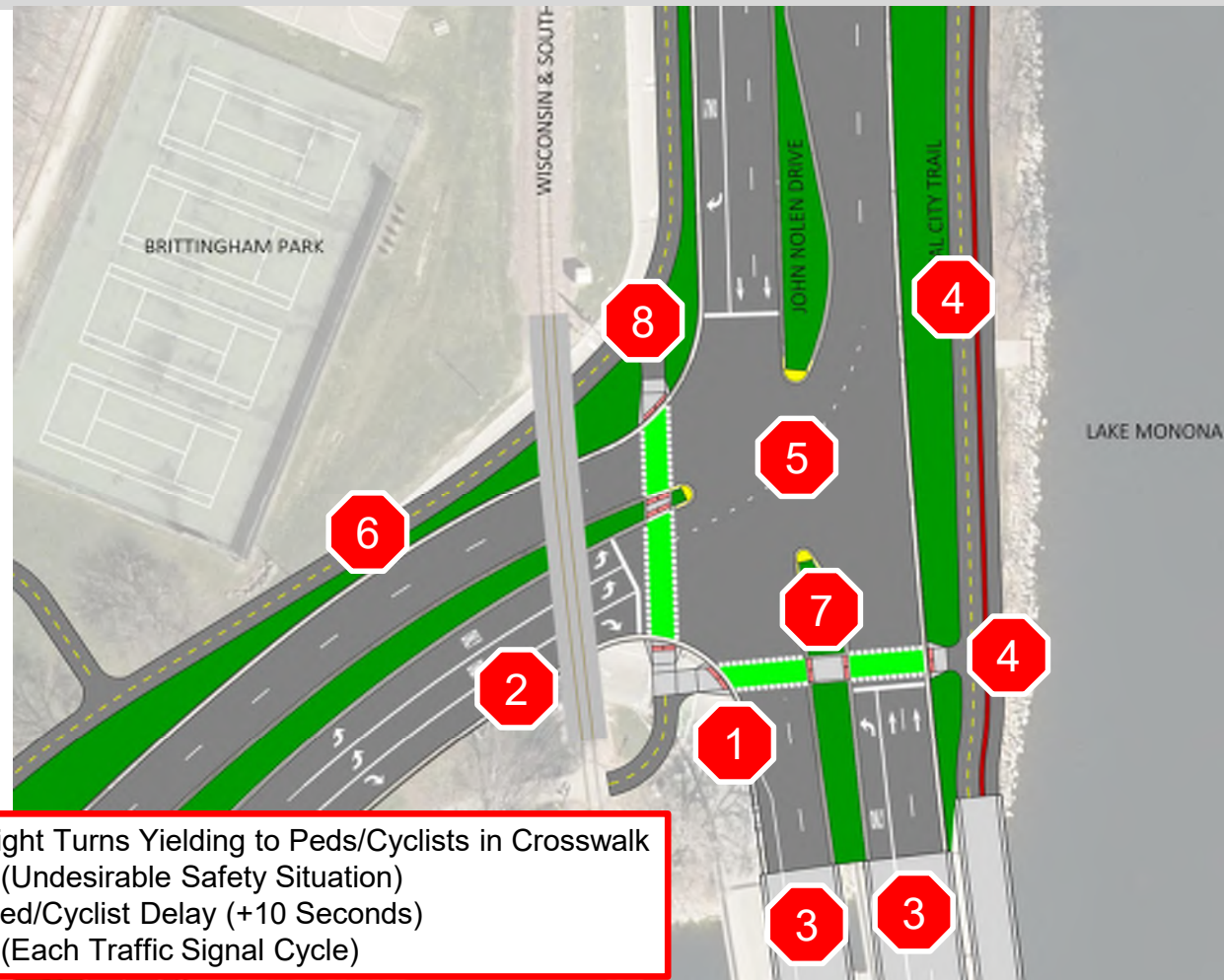


North Shore Drive Intersection – Alt 4B (Single “L” Crossing w/o Islands)



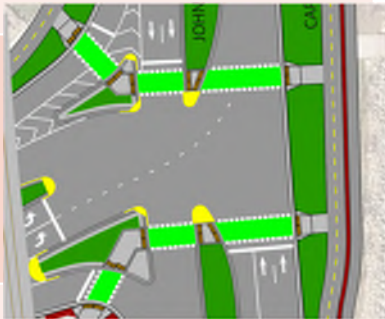

- (1) Larger Radius for Turning Vehicles
(Remove Merge Lane)
- (2) Curbed Island (Channelized Right) Removed
- (3) Narrower Roadway Lanes to Calm Traffic
(Reduced Pavement)
- (4) Single Crossing of John Nolen Drive (Single Stage)
(Reduced 73-ft)
- (5) Traffic Signal with Head per Lane
(Increased Driver Awareness & Compliance)
- (6) Pathway with Access to Brittingham Park
(Connections to Bedford St, Bassett St, & Broom St)
- (7) Improved Median Refuge
- (8) Crossing of North Shore Drive

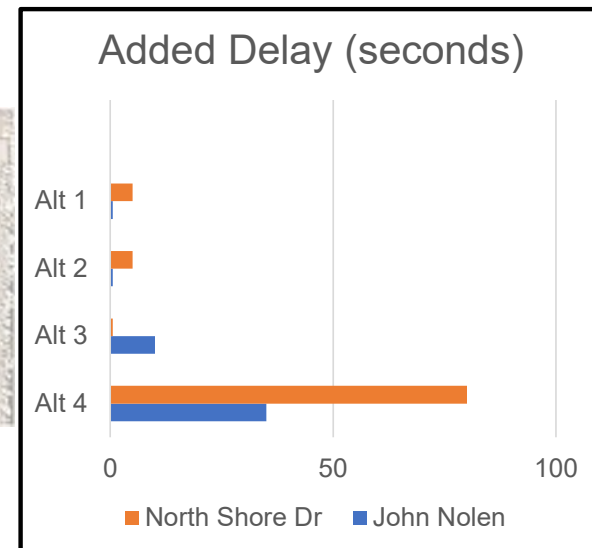
	ADDITIONAL OPERATIONAL DELAY PER VEHICLE (SECONDS)	
	JND	NSD
ALT 1	---	+5
ALT 2	---	+5
ALT 3	+10	---
ALT 4A	+35	+80
ALT 4B	Conventional Signal Timing (*)	
	-5	-10
	Permissive RT Turn Signal Timing (+)	
	+25	+20

- (*) Right Turns Yielding to Peds/Cyclists in Crosswalk
(Undesirable Safety Situation)
- (+) Ped/Cyclist Delay (+10 Seconds)
(Each Traffic Signal Cycle)



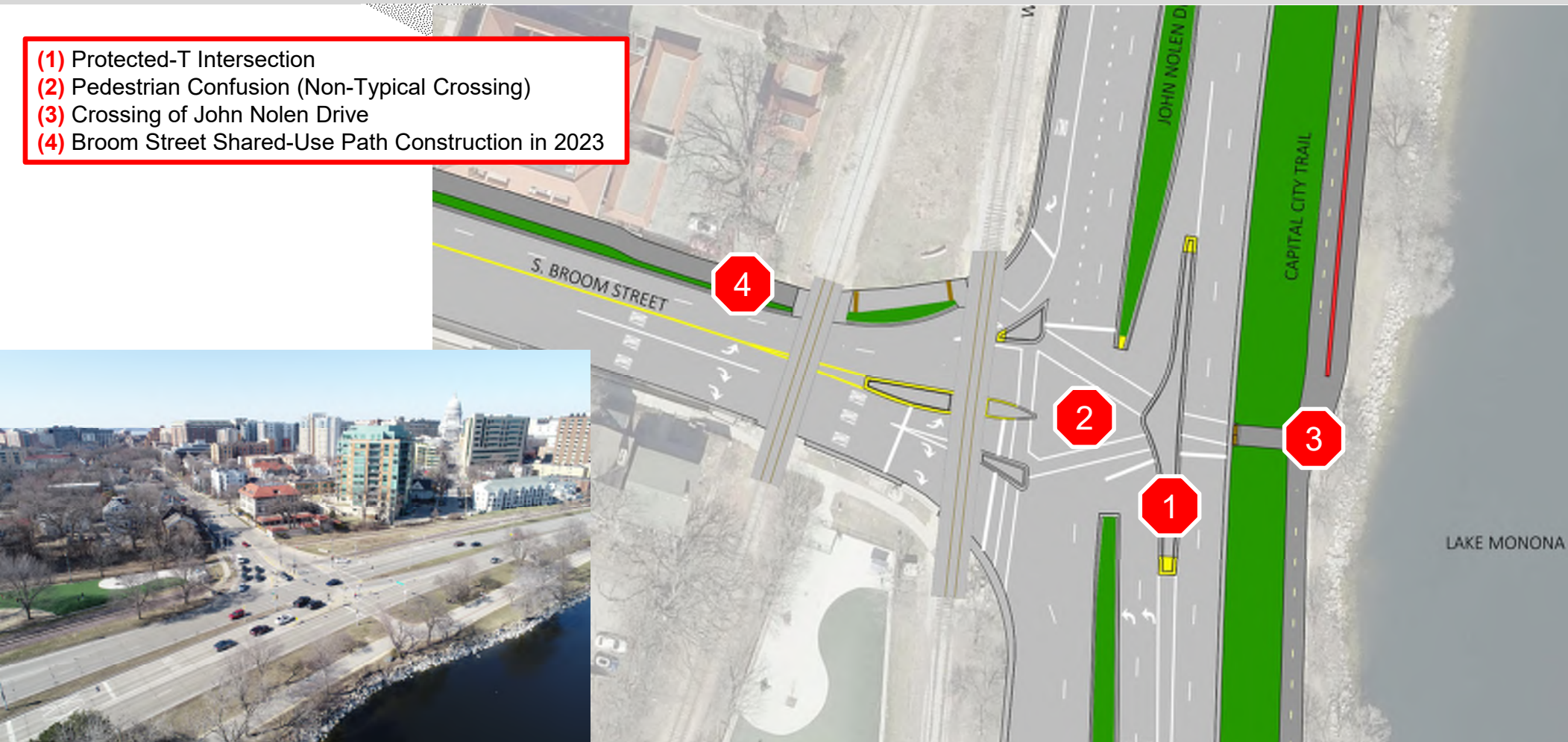
North Shore Drive Intersection – POLLING

	NOTES	DETAILS
ALT 1	Single Crosswalk w/ Islands +0 Sec Delay (JND) +5 Sec Delay (NSD)	
ALT 2	Single "L" Crosswalk w/ Islands +0 Sec Delay (JND) +5 Sec Delay (NSD)	
ALT 3	Dual Crosswalks w/ Islands +10 Sec Delay (JND) +0 Sec Delay (NSD)	
ALT 4	Dual Crosswalks w/o Islands +35 Sec Delay (JND) +80 Sec Delay (NSD)	



Broom Street Intersection – Existing

- (1) Protected-T Intersection
- (2) Pedestrian Confusion (Non-Typical Crossing)
- (3) Crossing of John Nolen Drive
- (4) Broom Street Shared-Use Path Construction in 2023



Broom Street Intersection – Alt 1 (Conventional-T)

****Conceptual Design for Planning Purposes Only****

(Not Currently Funded)

- (1) Conventional-T Intersection
(Simpler/Safer Crossing)
- (2) Smaller Radius for Turning Vehicles
- (3) Narrower Roadway Lanes to Calm Traffic
(Reduced Pavement)
- (4) Single Crossing of John Nolen Drive
(Reduced 28-ft)
- (5) Single Crossing of Broom Street
(Reduced 15-ft)
- (6) Traffic Signal with Head per Lane
(Increased Driver Awareness & Compliance)
- (7) Pathway with Access to North Shore Drive
- (8) Improved Median Refuge
- (9) Shared-Use Path Construction in 2023



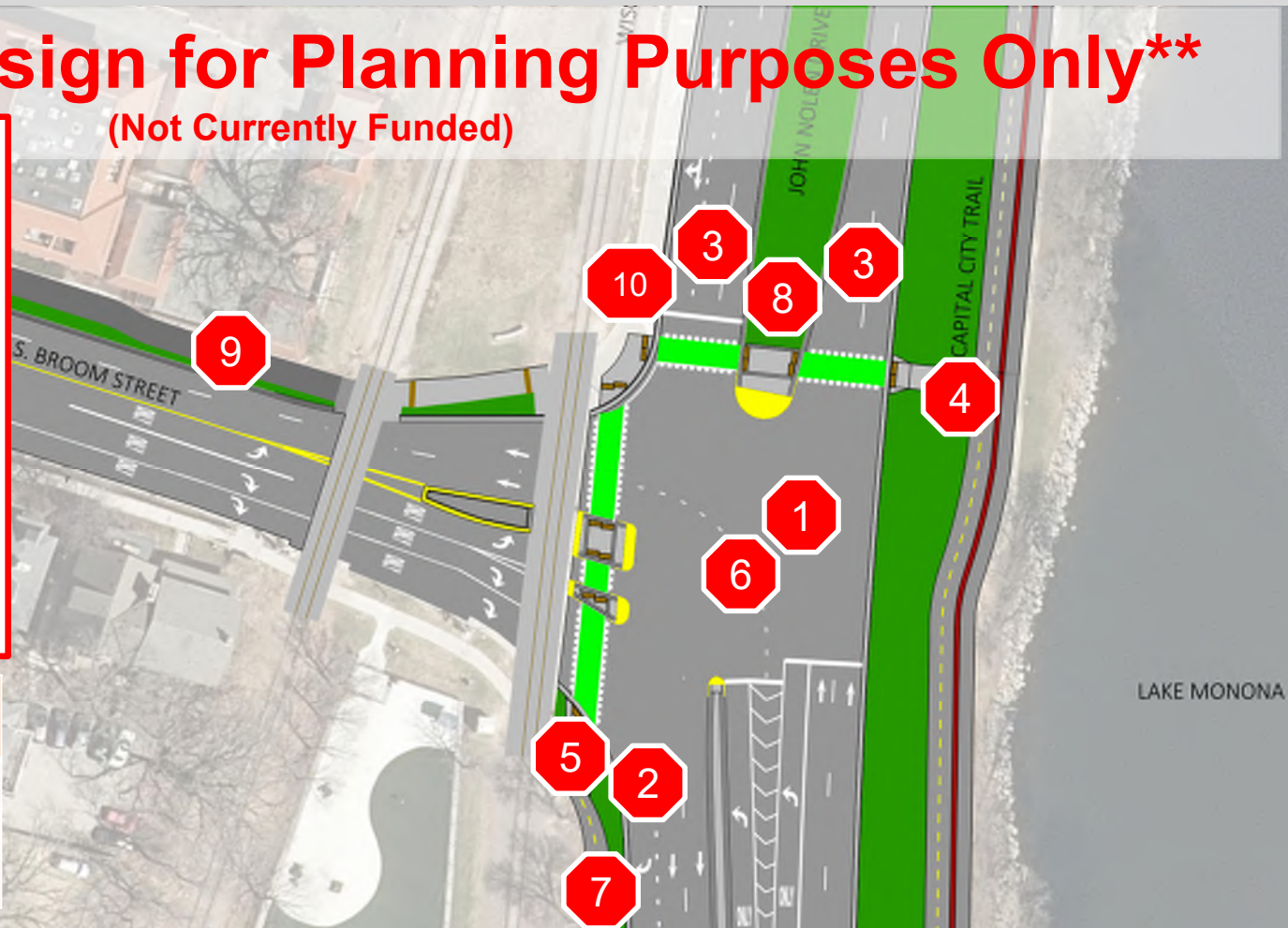
	ADDITIONAL OPERATIONAL DELAY PER VEHICLE (SECONDS)	
	JND	BROOM
ALT 1	+10	-5
ALT 2	+10	-5

Broom Street Intersection – Alt 2 (Conventional-T w/o Right Turn Lane)

****Conceptual Design for Planning Purposes Only****

(Not Currently Funded)

- (1) Conventional-T Intersection
(Simpler/Safer Crossing)
- (2) Smaller Radius for Turning Vehicles
- (3) Narrower Roadway Lanes to Calm Traffic
(Reduced Pavement)
- (4) Single Crossing of John Nolen Drive
(Reduced 59-ft)
- (5) Single Crossing of Broom Street
(Reduced 41-ft)
- (6) Traffic Signal with Head per Lane
(Increased Driver Awareness & Compliance)
- (7) Pathway with Access to North Shore Drive
- (8) Improved Median Refuge
- (9) Shared-Use Path Construction in 2023
- (10) Dedicated Right Turn Lane Removed



ADDITIONAL OPERATIONAL DELAY PER VEHICLE (SECONDS)

JND

BROOM

ALT 1

+10




-5

ALT 2

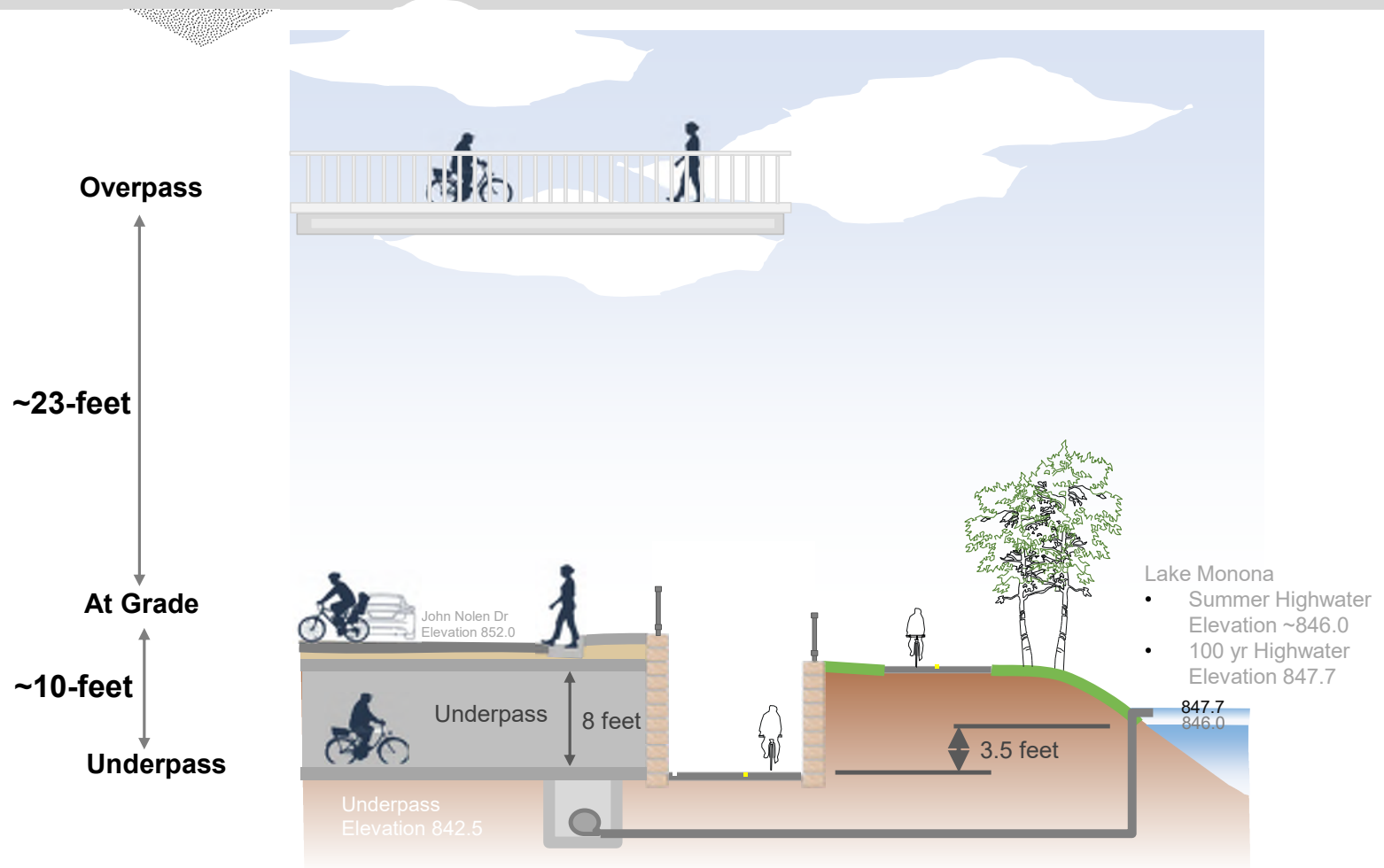
+10

-5

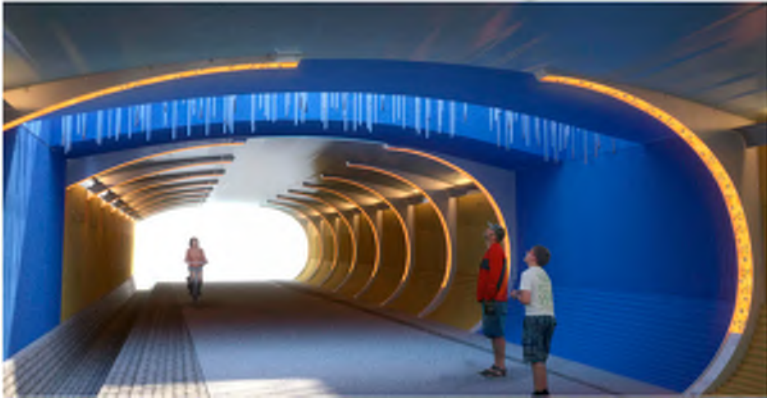
Broom Street Intersection – POLLING

	NOTES	DETAILS
EXISTING (No Change)	Protected-T Intersection	
ALT 1	Conventional-T Intersection Includes Southbound Right Turn Lane +10 Sec Delay (JND) -5 Sec Delay (Broom)	
ALT 2	Conventional-T Intersection Removes Southbound Right Turn Lane +10 Sec Delay (JND) -5 Sec Delay (Broom)	

Mobility Crossing Options (North Shore – Broom)



Mobility Crossing Examples



Underpass (Tunnel) Examples

Mobility Crossing Examples



Overpass (Bridge) Examples

Mobility Crossing Options – POLLING

	DETAILS
UNDERPASS (TUNNEL)	
OVERPASS (BRIDGE)	
AT-GRADE (STREET-LEVEL)	