Minnehaha Parkway Regional Trail
Preferred Concept Framework

For the purposes of master planning, the corridor-wide study area for Minnehaha Parkway Regional Trail has been split into 4 segments. These segments have distinct site characteristics, with variation in topography, existing recreational activities, trail connections and creek access. Throughout the corridor, a number of focus areas have been identified where closer design study was performed.

Preferred concepts have been developed at the segment scale and focus area scale. These preferred concepts were developed after gathering community feedback on preliminary site concepts that were launched in January and February of 2019.

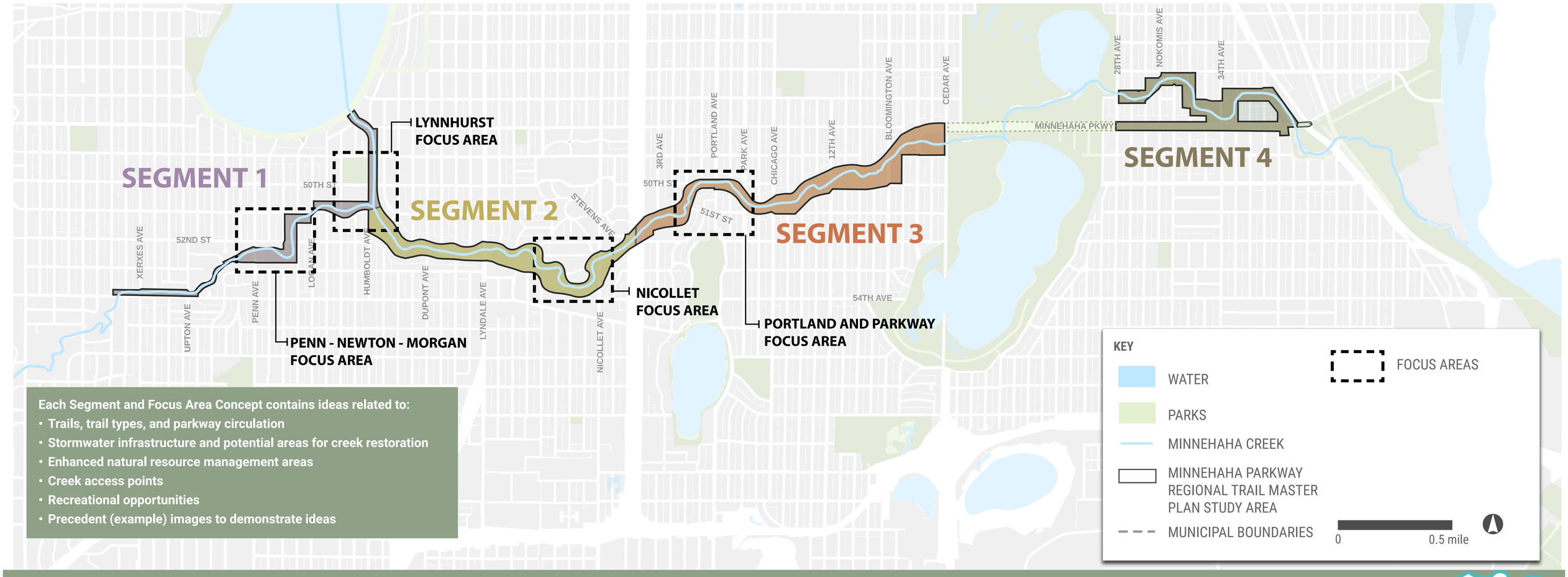
A number of corridor-wide diagrams have been created to provide context for the following proposed elements: Creek Restoration + BMPs, Outfalls and Pipesheds, Creek Access, Activity Areas, and Parkway Vehicular Circulation

Corridor Wide Vision

The corridor wide vision has been created through input received from the Community Advisory Committee (CAC), and input gathered through community engagement.

The development of the master plan should:

- Seek to restore the ecological function of the creek corridor for improved wildlife, flood resilience, and water quality
- Provide safe routes and entries to and within the corridor
- Thoughtfully incorporate recreation opportunities that complement nearby parks and provide increased interaction with the creek
- Enhance the corridor's function as a natural oasis and wildlife habitat
- Support region-wide and local users of all ages, abilities, and backgrounds
- Acknowledge the creek's history while celebrating its unifying ability through interpretation, art, and programming
- Balance the needs of the creek corridor, creek users, and nearby residents
- Promote continued agency collaboration, particularly with water management



Each Segment and Focus Area Concept contains ideas related to:

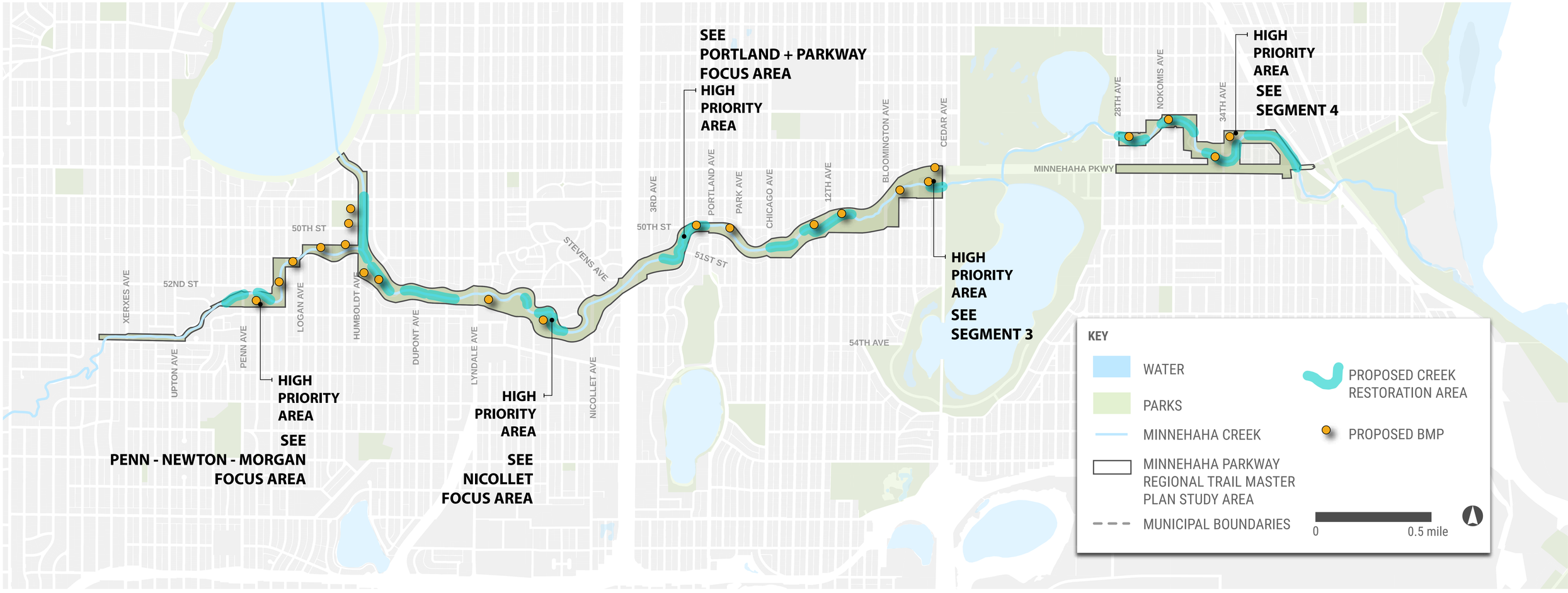
- **Trails, trail types, and parkway circulation**
- **Stormwater infrastructure and potential areas for creek restoration**
- **Enhanced natural resource management areas**
- **Creek access points**
- **Recreational opportunities**
- **Precedent (example) images to demonstrate ideas**

Minnehaha Parkway Regional Trail

Creek Restoration

Locations along Minnehaha Creek have been identified as having high opportunity for addressing stormwater volume and energy dissipation of creek flow, water quality, and flood storage. These areas are noted as 'proposed BMPs', or Best Management Practices. Best Management Practices are structural, vegetative, or managerial practices that treat, prevent, or reduce pollution in a water body. BMPs include strategies such as stormwater infrastructure, underground storage systems, pollinator or habitat-focused planting, stormwater wetlands, constructed wetlands and restored floodplain forest. Restoration and/or re-meandering of the creek is also a BMP that can stabilize habitat and slow stream velocities, which reduce erosion along streambanks. See the "Best Management Practices" board for further information about the function of BMPs.

This diagram shows areas along Minnehaha Parkway Regional Trail that have been identified as best opportunity sites for future BMPs and creek restoration areas. High Priority Areas have the potential to address the largest stormwater flows. See the "Outfalls and Pipesheds" board for further information about how stormwater is directed into Minnehaha Creek.



MINNEHAHA PARKWAY REGIONAL TRAIL
CORRIDOR-WIDE DIAGRAM: CREEK RESTORATION

DRAFT 5/30/19

Minnehaha Parkway Regional Trail

Best Management Practices

Best Management Practices (BMPs) are structural, vegetative, or managerial practices that treat, prevent, or reduce pollution in a water body.

STORMWATER BMPS

Originally, stormwater management addressed potential flooding issues only, and meant moving as much water as possible (volume) off the landscape as quickly as possible (rate). Today, stormwater management has evolved to integrate several additional factors. While still addressing potential flooding, stormwater management today means reducing volumes sent downstream by infiltrating and storing stormwater, reducing rates by filtrating and increasing storage, and integrating opportunities to address water quality, conservation, habitat and recreational considerations.

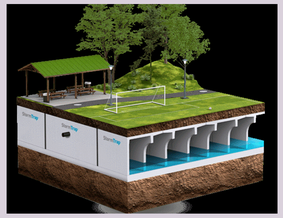
Bio-retention basins (rain gardens)

Detention basins

Multi-cell BMP

UNDERGROUND STORAGE SYSTEMS

Underground storage systems directly contribute to addressing stormwater volume and rate issues by capturing and storing stormwater collected from surrounding impervious areas. Underground storage systems are an effective alternative to surface ponds in areas where space is at a premium, i.e., in urban and park areas. With the stormwater facility below ground, the space above the facility can be used in a normal manner, such as park land.



Underground storage systems

POLLINATOR LAWN (HABITATS)

Pollinators are animals that move pollen from the male part of a plant's flower to the female part of the same or another plant, resulting in fertilization. This movement of pollen is necessary for the production of fruits, seeds, and young plants with root systems that stabilize soil and prevent erosion, buffer waterways, store carbon and provide habitat. Bees, butterflies, beetles, moths, bats and birds comprise many of the important species of pollinators. The native plants that comprise pollinator gardens enhance the aesthetics of a park, improving recreational opportunities.

pollinator habitats

CREEK RE-MEANDER

The meandering, or curving of a stream is an important factor in the stream's physical (erosion and sediment deposition) and ecological dynamics (habitat). Re-meandering a stream can increase sinuosity (the degree of meandering), which effectively reduces the slope of the stream. A reduction in slope can result in a slowing of streamflow velocities, effectively reducing bank and streambed erosion. Additional natural features can be brought in to enhance stability and habitat, including root wads, rock veins, cedar tree revetments, and others.

Creek re-meander examples

STORMWATER WETLAND

Stormwater wetlands are constructed stormwater management practices that are considered an end-of-pipe best management practice to address water quantity and water quality issues. The storage capacity provided by stormwater wetlands can help reduce downstream stormwater volumes as well as peak runoff rates. Stormwater wetlands offer high pollutant removal efficiencies for pollutants and particulates, including nitrogen, phosphorus, oil and grease – with relatively low maintenance costs.

Stormwater wetland

RESTORED FLOODPLAIN FOREST

Floodplains are an integral part of healthy rivers and streams. They store and slow floodwaters, improve water quality, safeguard people and property, provide vital habitat, recharge groundwater, and provide unique opportunities for recreation. Organic matter from forested floodplains provide sources of energy for aquatic organisms. Shade from streamside vegetation moderates temperatures. Riparian vegetation reduces overland water flow and sediment transport. Nutrient uptake by floodplain vegetation decreases inputs of nutrients into the system.

Mature (left) and newly restored (right) floodplain forest

RESTORED WETLAND

Wetlands protect and improve water quality, provide fish and wildlife habitat, store floodwaters and attenuate downstream flooding, help maintain surface water flow during dry periods, and enhance recreational opportunities. Restoring wetlands that have been either removed or degraded to the extent that these services are diminished or altogether eliminated results in the reinstatement of these services.

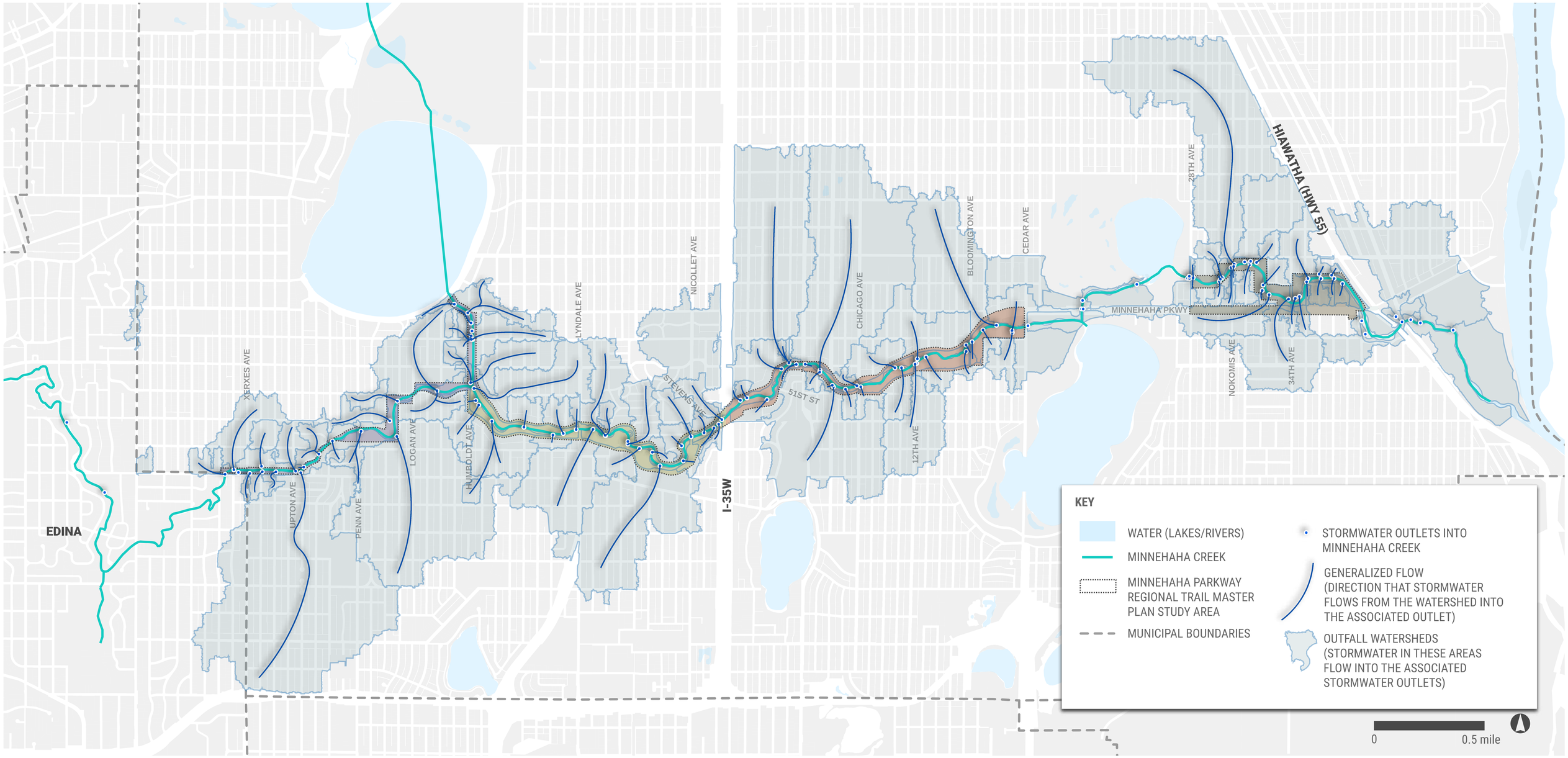
Restored wetland

Minnehaha Parkway Regional Trail

Outfalls and Pipesheds

Outfalls are locations where stormwater runoff flows into Minnehaha Creek. The map below shows the drainage area for each outfall to Minnehaha Creek. These drainage areas are called pipesheds. Some pipesheds serve a larger area than others, creating higher volume and velocity of stormwater as it enters Minnehaha Creek at the outfall.

By implementing BMPs and remeandering or restoring the Creek in strategic locations, we can make Minnehaha creek corridor more resilient to flooding. Flooding is projected to occur more frequently and severely in the coming decades. BMPs, remeandering, and creek restoration can also help to store water, infiltrate water into the ground, and clean stormwater to improve water quality.



MINNEHAHA PARKWAY REGIONAL TRAIL
OUTFALLS AND PIPESHEDS

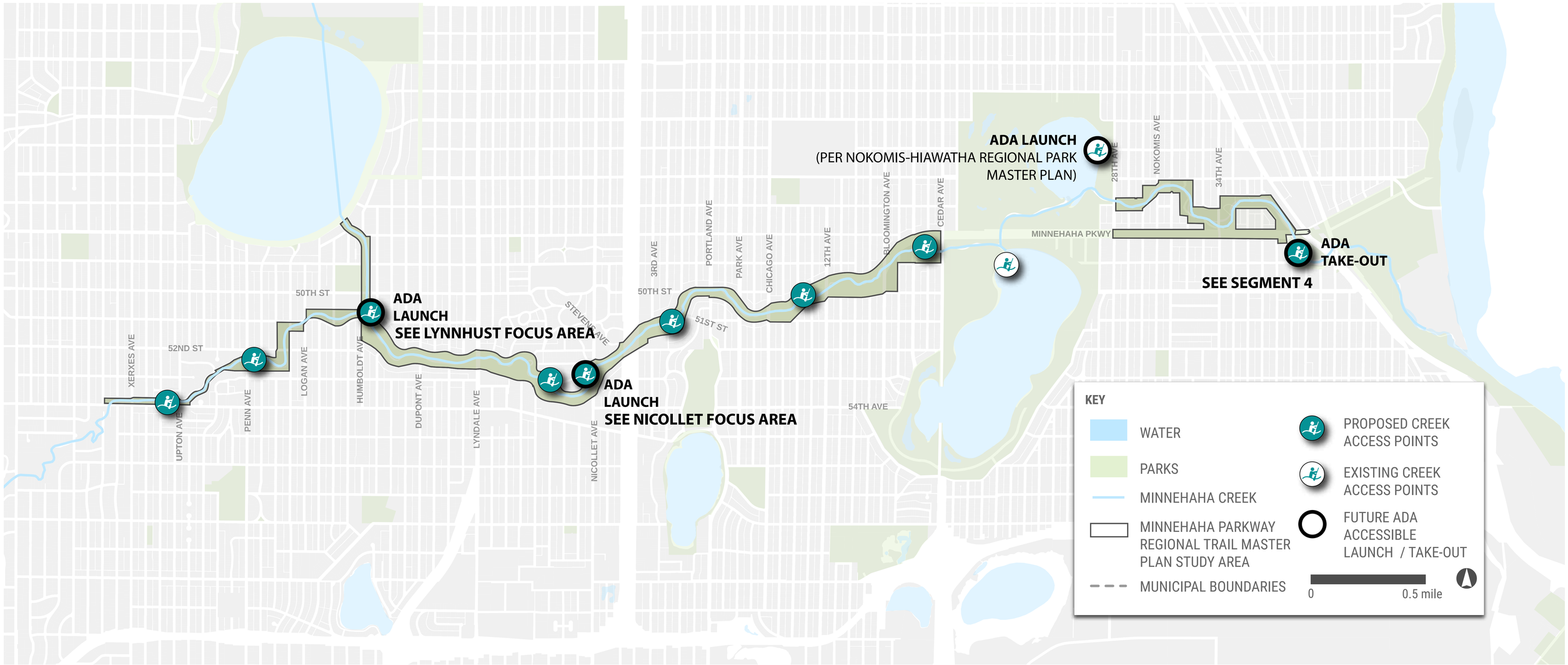
DRAFT 5/30/19

Minnehaha Parkway Regional Trail

Creek Access

Today, access to Minnehaha Creek within the Minnahah Parkway Regional Trail study area is limited to the launch at 51st Street, south of Lynnhurst Recreation Center. There are existing launches at Lake Hiawatha and Lake Nokomis, as well as a take-out at 39th Avenue before Minnehaha Falls.

This diagram shows areas along Minnehaha Parkway Regional Trail that have been identified for future creek access points, with the intention of creating more places to safely access the Creek for kayaking, canoeing, fishing, and accessing the water. A number of future launches will be ADA accessible, in coordination with the Nokomis-Hiawatha Regional Park Master Plan (2015).



MINNEHAHA PARKWAY REGIONAL TRAIL
CORRIDOR-WIDE DIAGRAM: ACCESS TO MINNEHAHA CREEK

DRAFT 5/30/19

Minnehaha Parkway Regional Trail

Activity Areas

Today, Minnehaha Parkway Regional Trail is best known for passive, recreational trails with scattered open lawn areas for informal use. Along the way, there are a number of places where the trail intersects with Activity Nodes, which are concentrated with more active recreational uses, such as tennis courts or sledding hills.

The preferred concepts for Minnehaha Parkway Regional Trail maintain most of the park for passive recreation, with additional areas for picnicking, observing wildlife, and accessing the Creek. At the interface with Lynnhurst Park (a neighborhood park), there is an Activity Node identified for existing and future athletic field and court use. The area under the Nicollet Avenue Bridge has been identified as a future Activity Node, with future adventure play area for all ages and public art. At Bloomington Avenue south of the creek, future single-track bike trails will serve as an Activity Node, to compliment future areas at Hiawatha and Nokomis Regional Parks.

Active Recreation

includes organized sports, playground activities, and extensive facilities or development that impact a site.

Proposed Active Recreation:

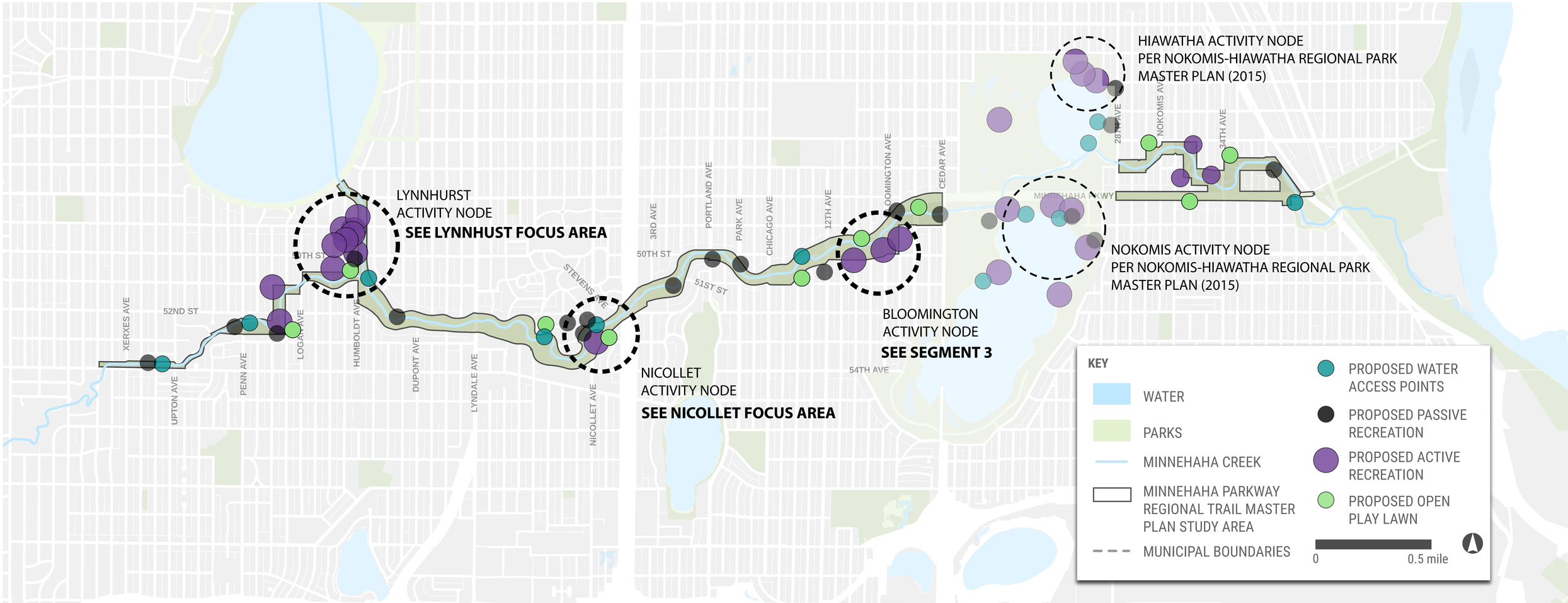
Sledding
Ice Skating
Tennis / Pickleball
Informal Ball Fields
Adventure or Nature Play
Bike Park or Bike Trail

Passive Recreation

includes activities such as biking, walking, or observing nature that require a minimum of formal facilities or development within a site.

Proposed Passive Recreation:

Picnicking
Creek Access
Open Play Lawns
Art
Trails (biking and walking)
Observation Decks



MINNEHAHA PARKWAY REGIONAL TRAIL
CORRIDOR-WIDE DIAGRAM: ACTIVITY AREAS

DRAFT 5/30/19

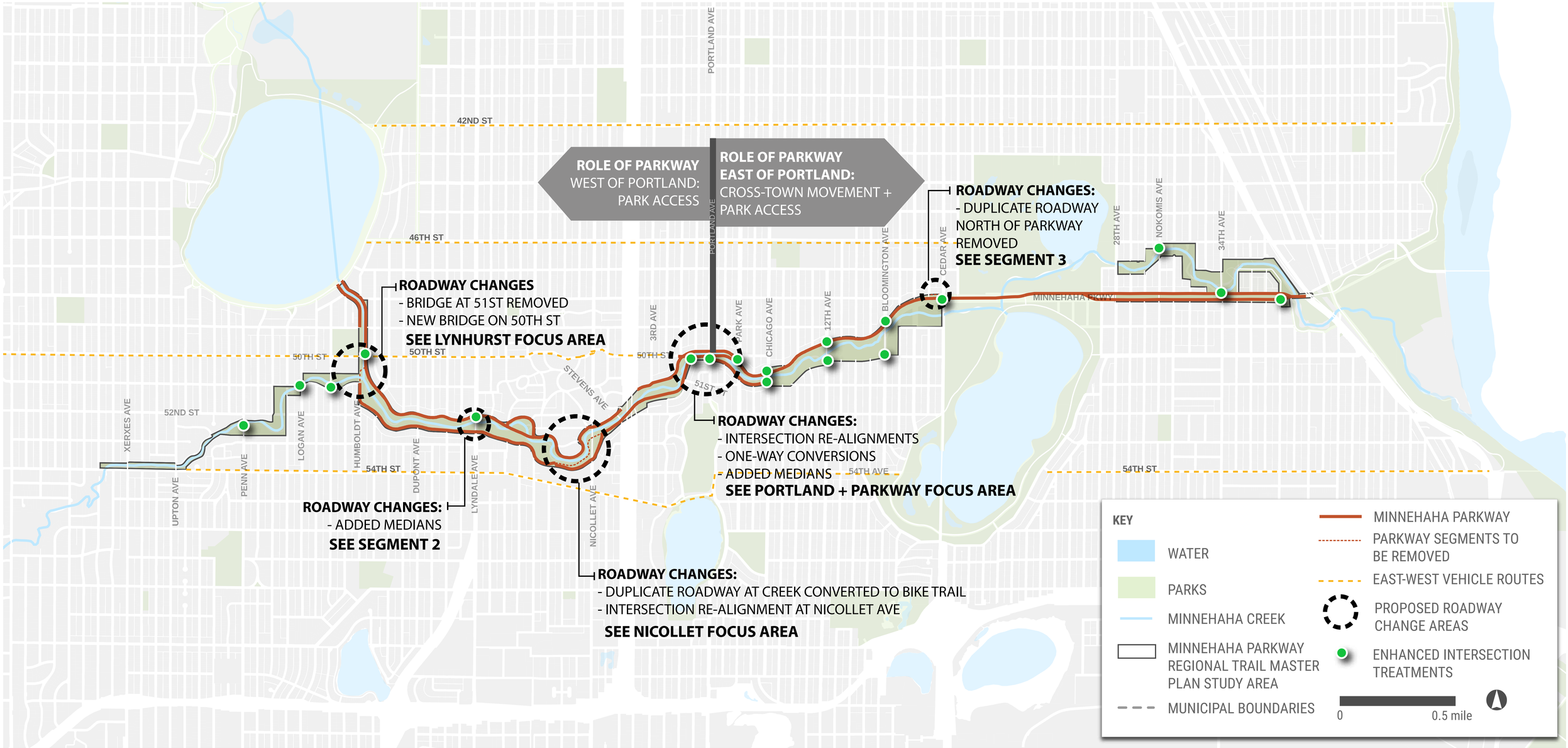
Minnehaha Parkway Regional Trail

Parkway Vehicular Circulation

The Parkway Road plays different roles within the context of vehicle circulation throughout South Minneapolis. The preferred concepts emphasize priority for pedestrian and bicycle use throughout the parkway. Where the trail intersects with roadways, enhanced intersection treatments are proposed, which include high visibility crosswalk markings, curb extensions and larger landing areas for bicyclists and pedestrians, and raised intersections to increase visibility. In order to improve circulation for all modes, reduce pavement, calm traffic, and create more space for creek restoration, there are a number of areas that have been identified for future roadway changes.

These changes involve removing segments of the current parkway, converting roadway segments to trails, re-alignment of intersections, constructing raised medians, and converting two-way traffic to one-way traffic in specific areas.

In general, the approach to vehicle circulation along the parkway acknowledges that east of Portland Avenue, the parkway functions to provide cross-town movement and access to Minnehaha Parkway Regional Trail. West of Portland Avenue, the role of the parkway is limited to providing access to Minnehaha Parkway Regional Trail.



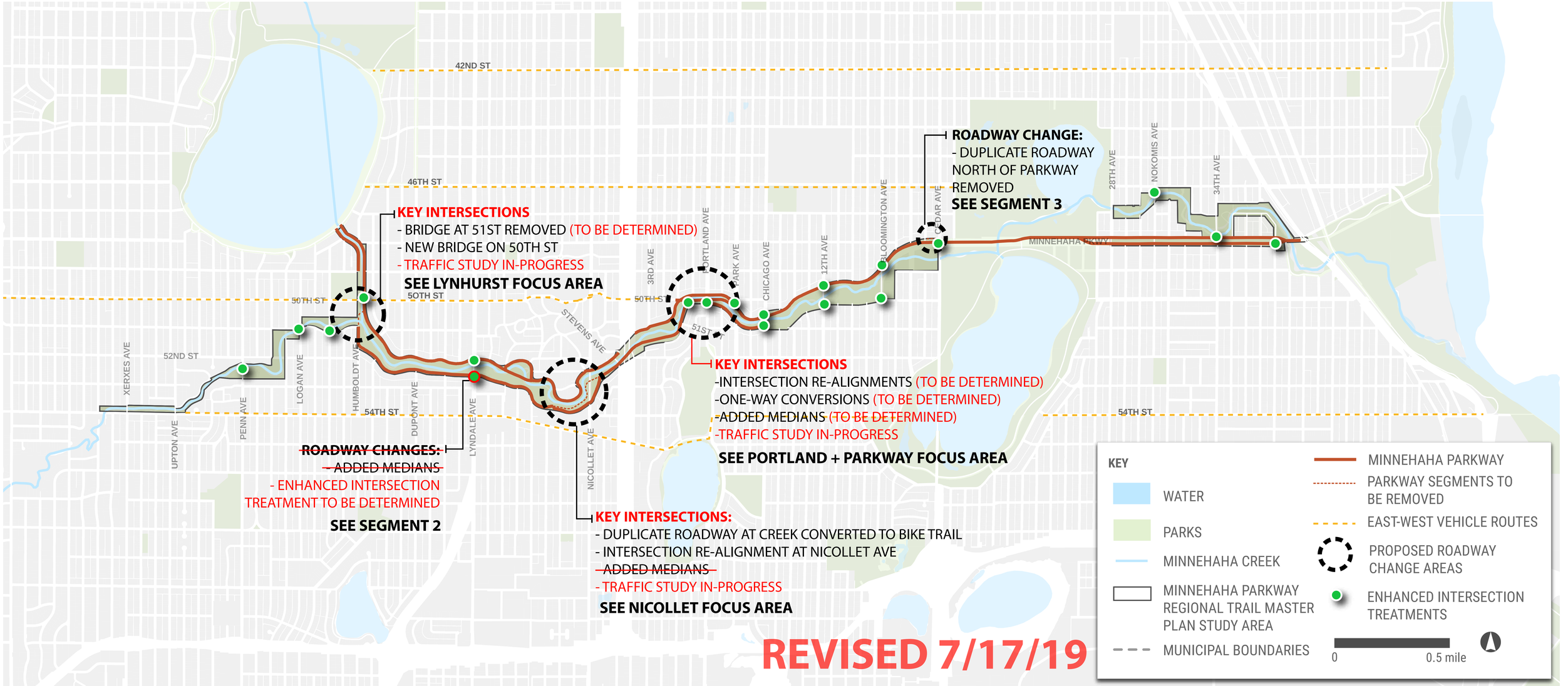
MINNEHAHA PARKWAY REGIONAL TRAIL
CORRIDOR-WIDE DIAGRAM: PARKWAY VEHICULAR CIRCULATION

DRAFT 5/30/19

Minnehaha Parkway Regional Trail

Parkway Vehicular Circulation

The preferred concepts emphasize priority for pedestrian and bicycle use throughout the parkway. Where the trail intersects with roadways, enhanced intersection treatments are proposed, which include high visibility crosswalk markings, curb extensions and larger landing areas for bicyclists and pedestrians, and raised intersections to increase visibility. In order to improve circulation for all modes, reduce pavement, calm traffic, and create more space for creek restoration, there are a number of areas that have been identified as **Key Intersections.** **Currently, a traffic study is in-progress to better understand and identify appropriate improvements at these intersections to address safety and the long-term vision of the parkway.**



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MINNEHAHA PARKWAY REGIONAL TRAIL

CORRIDOR-WIDE DIAGRAM: PARKWAY VEHICULAR CIRCULATION

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