City of Madison
Department of Transportation
&
City Engineering

Transportation Improvement Program (TIP) Screening and Project Development Tool

Developing a Transportation Improvement Program Prioritization Process was an effort conducted in 2022 and 2023

Process and Methodology Presented to:

TPPB	3/7/2022
TPPB	8/1/2022
TC	2/28/2024

Portland Example

Minneapolis Example

TIP - Transportation Improvement Program

Engineering - Major Streets
Capital Improvement Plan (CIP) Overview

Budget Phase: Adopted

Summary Table

	2025	2026	2027	2028	2029	2030
Bridge Repair	260,000	270,000	280,000	290,000	300,000	315,000
High Point/Raymond/MidTown	595,000	1,826,000	-	-	500,000	14,900,000
John Nolen Drive	11,485,000	-	-	3,628,000	4,700,000	4,000,000
Milwaukee Street	-	-	-	-	-	6,708,000
Mineral Point Road	-	5,100,000	-	-	-	-
Park Street, South	6,183,000	-	-	-	-	-
Pavement Management	15,465,000	18,853,000	18,082,000	21,718,000	23,455,000	
Perry St Overpass	-	-	-	-	-	
Pleasant View Rd Phase 2	1,050,000	-	-	-	-	
Reconstruction Streets	12,366,000	23,901,000	18,947,000	19,555,000	20,497,000	
Regent Street	450,000	17,475,000	-	-	-	
	$ 47,854,000	$ 67,425,000	$ 37,309,000	$ 45,191,000	$ 49,452,000	

Used directly for the Capital Budget

Focus is on the following years

Project	**Reconstruction Streets**		Project #	**10226**
Citywide Element	**Land Use and Transportation**		Project Type	**Program**

Project Description

This program is for replacing deteriorated streets to maintain neighborhood roadways. Projects funded include those where a full street replacement is necessary. Streets planned in 2025 include portions of: Pontiac, Nokomis, Rosewood, Boston, Davidson, Park, Maher, Gary, Rusk, Evergreen, Ohio, Sommers, Meyer, Shawnee Pass, Nakoma SW & W Mifflin Plaza, Sugar Maple & Erin-Emerald Alley.

|	2025	2026	2027	2028	2029	2030
GF GO Borrowing	5,975,000	10,310,000	9,050,000	9,500,000	10,675,000	11,209,000
Non-GF GO Borrowing	1,550,000	2,970,000	1,920,000	1,715,000	1,395,000	1,390,000
Special Assessment	1,474,000	2,621,000	2,230,000	2,859,000	2,535,000	2,540,000
State Sources	225,000	225,000	225,000	225,000	225,000	225,000
Revenue Bonds	1,875,000	3,860,000	2,530,000	3,081,000	2,898,000	3,042,000
Reserves Applied	1,267,000	3,165,000	2,992,000	2,175,000	2,769,000	3,010,000
Developer Capital Funding	-	750,000	-	-	-	-
Total	$ 12,366,000	$ 23,901,000	$ 18,947,000	$ 19,555,000	$ 20,497,000	$ 21,416,000

Work in Progress

TIP

RECONSTRUCTS — Pavements & Utilities with Critical Needs

Assign Raw Score
- Pavement (0-30)
- Sanitary (0-10)
- Water (0-10)
- Storm (0-10)
- Ped (0-8)
- Bike (0-6)
- Transit (0-6)
- Unique Factors (0-20)

GIS
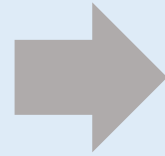
Additional Considerations
- + 5% raw score if on HIN
- + 15% raw score if in under-represented communities

GIS

Scope & Budget
- Assemble into logical groupings
- Eliminated non-reconstructs
- Prioritize Groupings
- Recommend for budget

Discretion

SAFE STREETS

NON-RECONSTRUCTS — Pavements without critical needs

Identify Needs
- Candidate projects identified through community input, NRTs, staff observations

Evaluate Projects
- Evaluate candidate projects using safety, equity, ability to fill gaps, cost as metrics
- Prioritize

TC Approval
- Review evaluation
- Modify prioritization as appropriate
- Approve

Example Scoring

A Multi-department effort

- **Pavement – Engineering – PASER Rating**

- **Sanitary – Engineering – Sewer Ratings / Maintenance Schedule**

- **Storm – Engineering – Watershed Studies**

- **Water – Water Department – Main Break Analysis**

- **Pedestrian/Bike – Traffic Engineering / MPO – Multiple Datasets**

- **Transit – Metro – Bus Routes**

- **High Injury Network – UW-Madison – Crash Analysis**

- **Equity Priority Areas – Finance**

Scoring System Details - Pavement

- **System out of 30 Points**

- **Combination scoring criteria using both PASER and Road Classification**

PAVEMENT CONDITION MAP 2025

Legend

Pavement Condition
- 1 - 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9 - 10
- City Boundary

*Pavement Scoring is up to 30 points based on the condition shown in this map and other factors such as road classification (Local, Collector, Arterial).

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
In EJArea = +15%

8
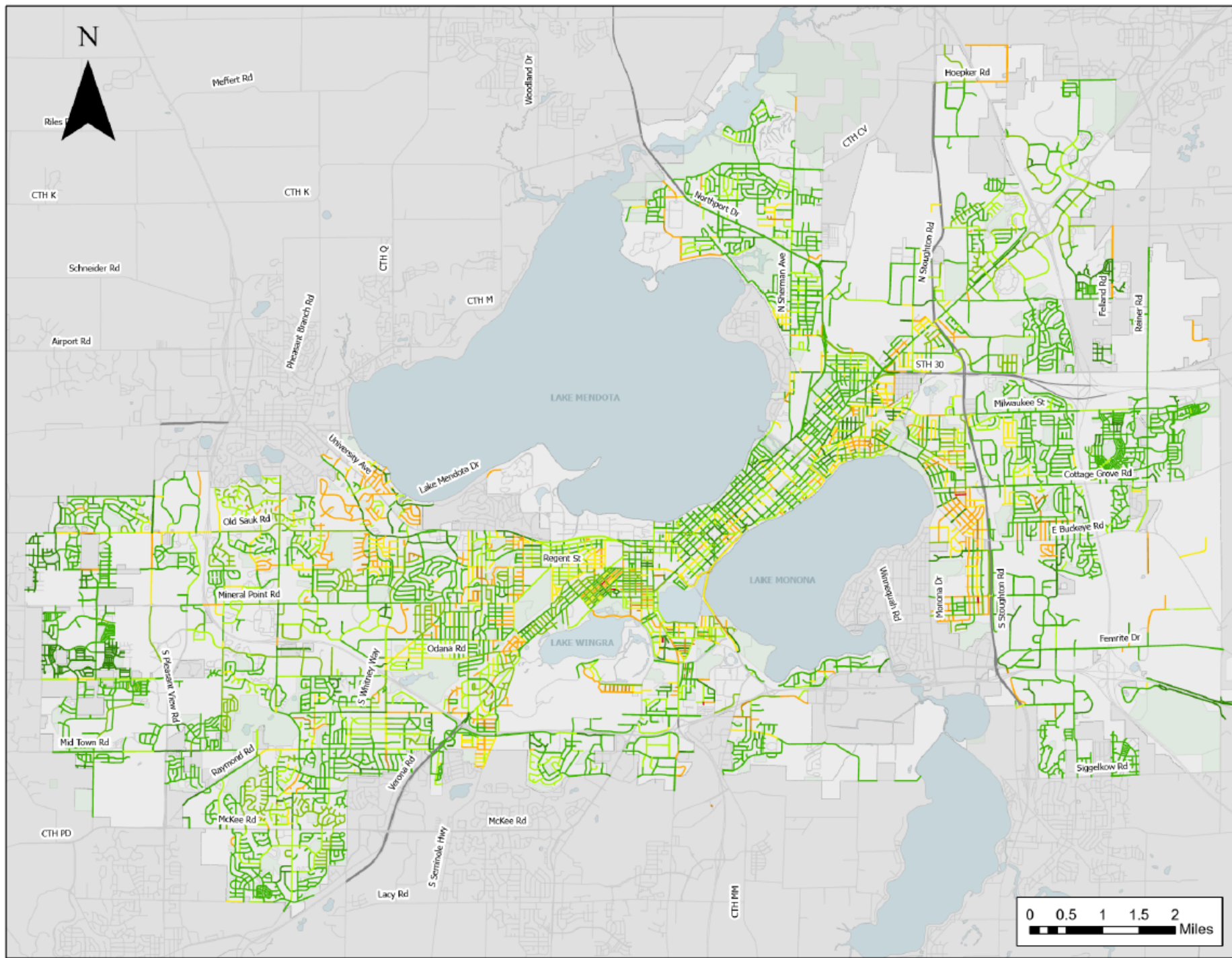
Scoring System Details - Sanitary

- **System out of 10 Points**

- **5 = 0 PTS**

- **4 = 2 PTS**

- **3 = 5 PTS**

- **2 = 8 PTS**

- **1 = 10 PTS**

SANITARY SCORING MAP

2025

Legend

Sanitary Score

— 0
— 2
— 5
— 8
— 10

City Boundary

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
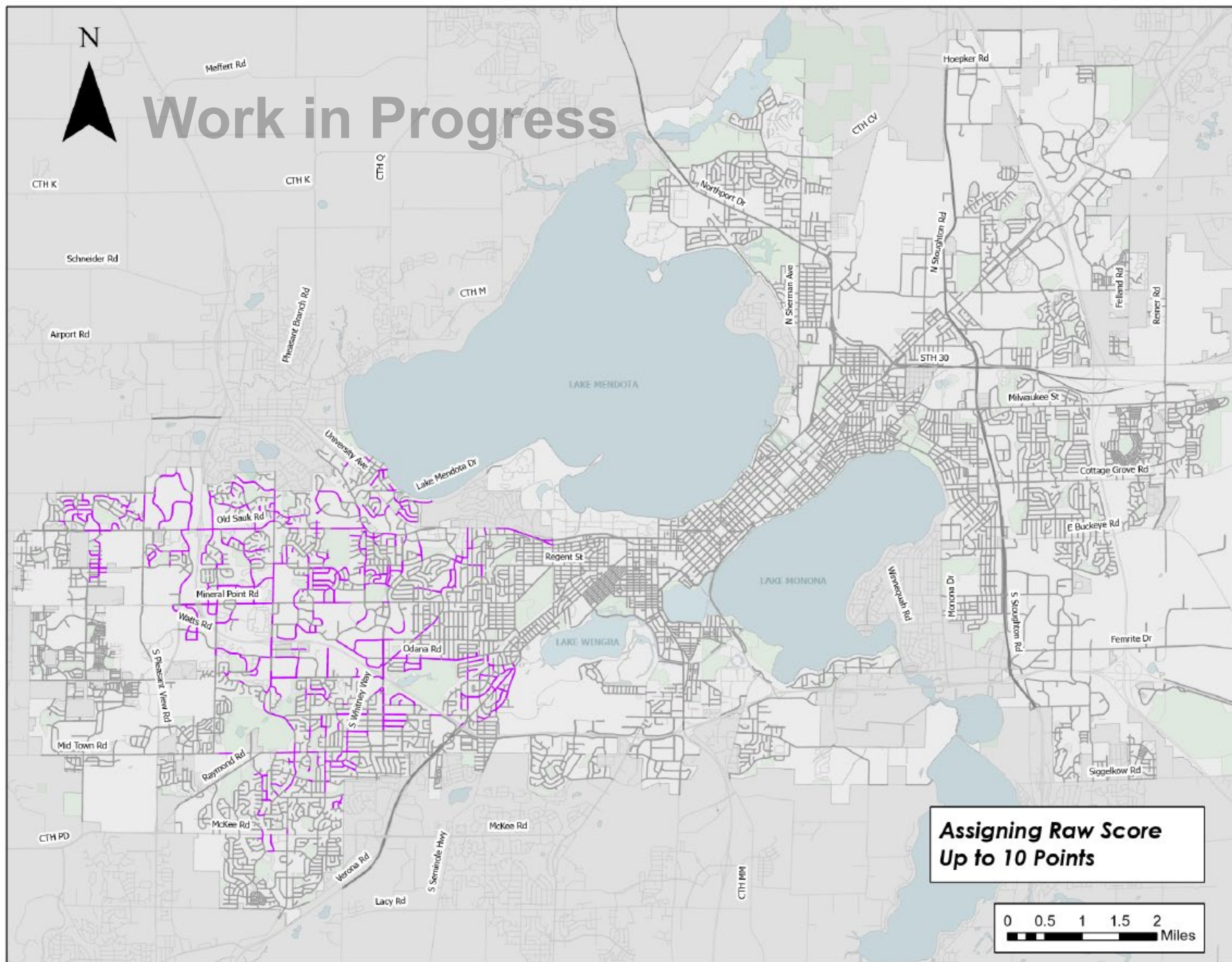In EJArea = +15%

**Assigning Raw Score
Up to 10 Points**

10
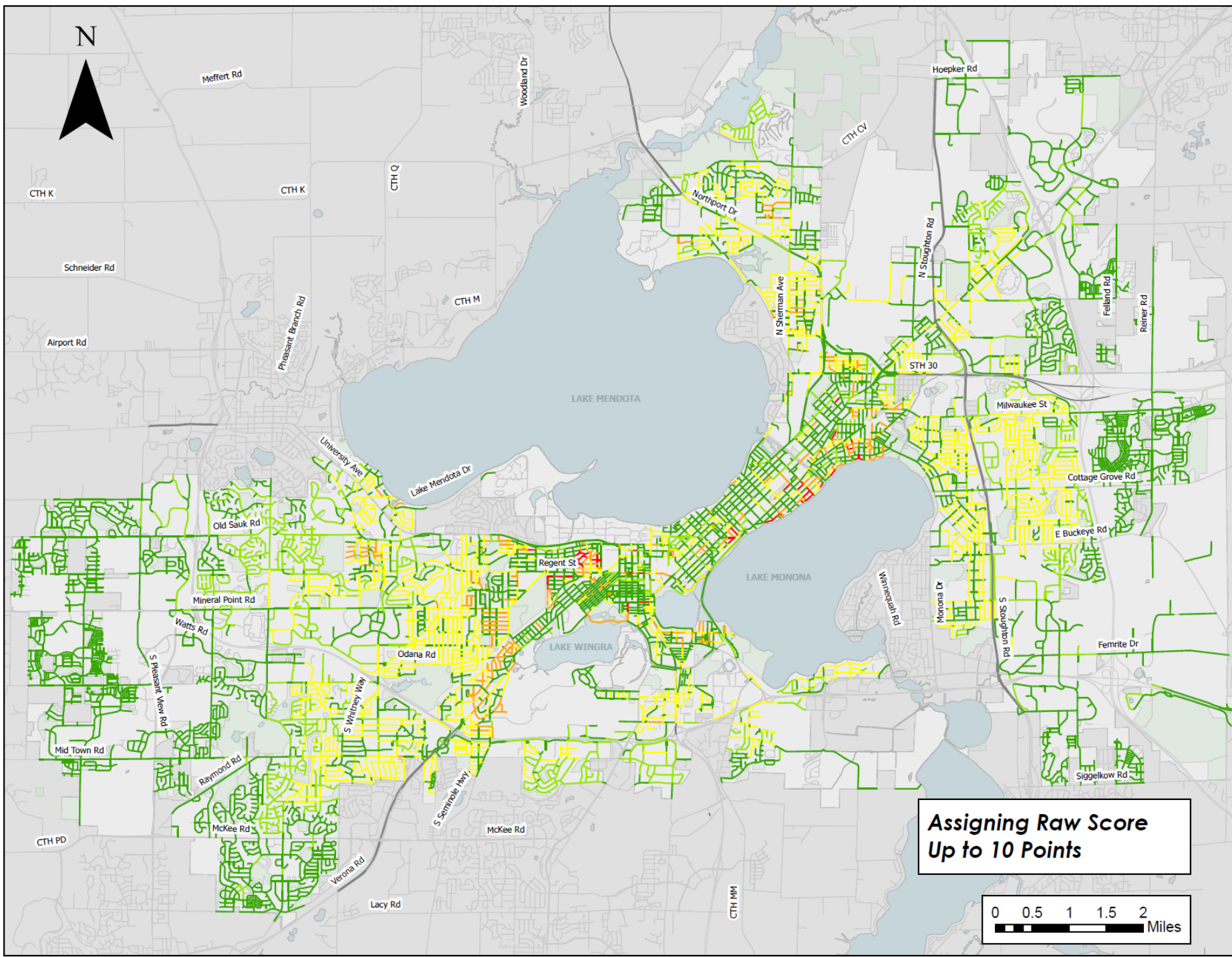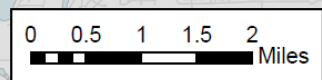
Scoring System Details - Storm

- **System out of 10 Points**

- **Developed using on-going watershed studies**

- **Dataset is in progress**

- **Roads that had a storm point on them got 10 points**

STORMWATER SCORING MAP

2025

Work in Progress

Legend

Storm Score
— 0
— 10
City Boundary

*Stormwater improvements are based on watershed studies.

The studies were started after the 2018 storm and were prioritized based on the areas that experienced the most flooding during that event.

Additional planned improvements will be added as watershed studies are completed.

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
In EJArea = +15%

Assigning Raw Score Up to 10 Points

0   0.5   1   1.5   2 Miles

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Scoring System Details - Water

- **System out of 10 Points**

- **Low Risk = 0 PTS**

- **Medium Risk = 7 PTS**

- **High Risk = 10 PTS**

- **Source from Water Department's GIS Team**

WATER MAIN SCORING MAP

2025

Legend

Water Main Score

— 0
— 7
— 10
City Boundary

Assigning Raw Score Up to 10 Points

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
In EJArea = +15%

14
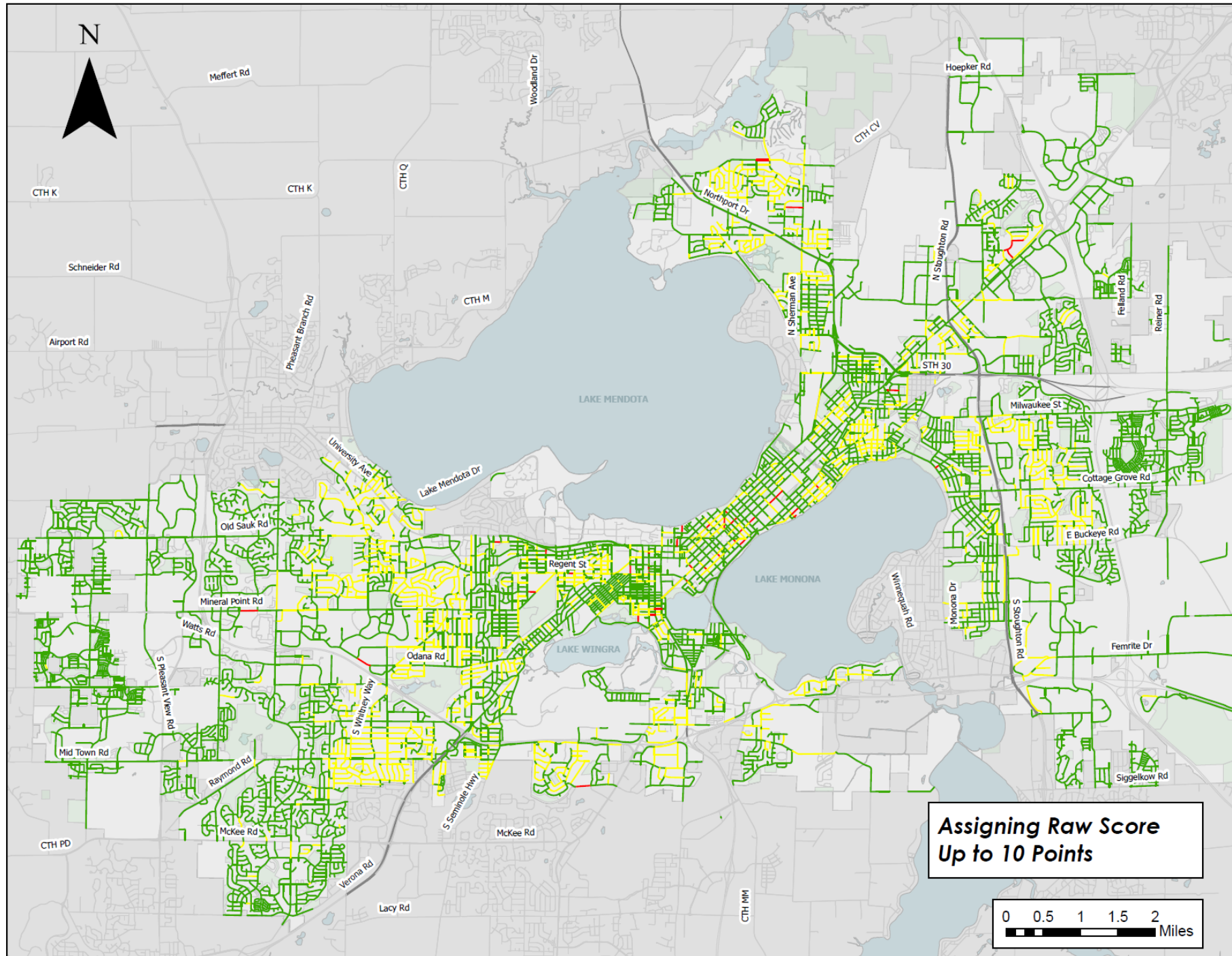
Scoring System Details – Pedestrian Needs

- **System out of 8 Points**
  - Changed from last year – Dataset previously used was outdated
  - Working with TE/Engineering staff on system and will be more robust 1-10 years
- **MPO Updates the dataset every year**
- **0 points for sidewalks on both sides of streets**
- **3 points for sidewalks on one side**
- **5 points for no sidewalk or ramp no curb cuts nearby**
- **8 points for sidewalk gaps near schools, parks, and transit**

PEDESTRIAN SCORING MAP

2025

Legend

Pedestrian Score
— 0
— 3
— 5
— 8
Parks
City Boundary

Scoring System - Based on streets
0 - Sidewalks both sides
3 - Sidewalks one sides
5 - No Sidewalk
8 - Sidewalk gaps near transit, parks, and schools

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
In EJArea = +15%

Assigning Raw Score Up to 8 Points

16
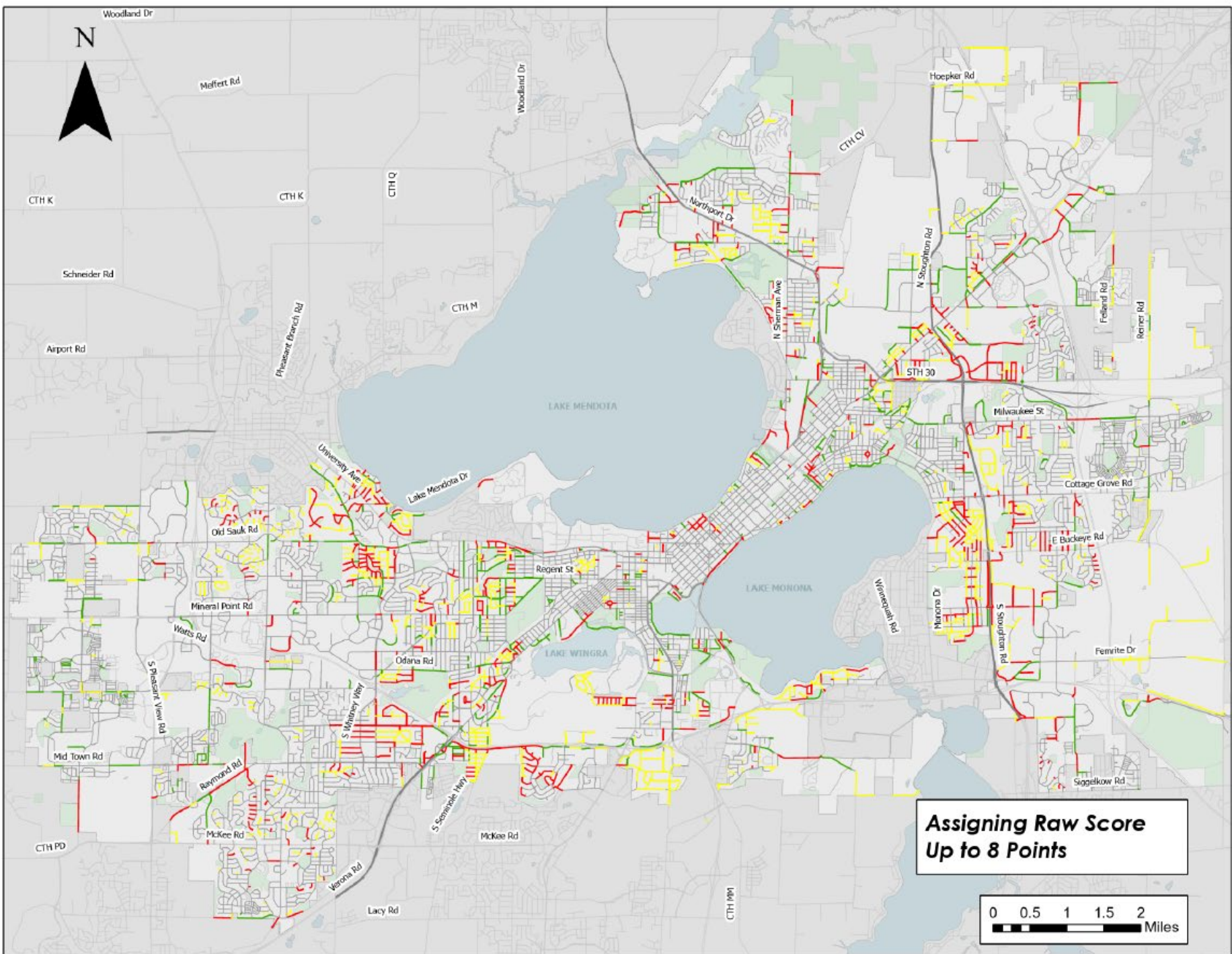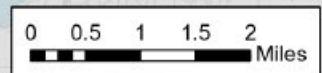
Scoring System Details – Bikes

- **System out of 6 Points**

- **Uses MPO's dataset containing**

  - Level of stress network

  - Road Classification

  - On-street Facilities

Scoring System Details – Bikes

- System out of 6 Points

0 Points – All other local streets, low stress collectors and arterials

1 Point – Low Stress locals such as Mifflin St, Main St, and Lake loop areas

2 Points – Medium Stress Local or collector with facilities

3 Points – High Stress collectors with facilities / Medium stress arterials with facilities

4 Points – High Stress collector no facilities, Medium stress arterials no facilities

5 Points – High Stress arterials with facilities

6 Points – High Stress arterials no facilities

*Score is 0 if off-street path nearby

BICYCLE SCORING MAP

2025

Legend

Bicycle Score

— 0
— 1
— 2
— 3
— 4
— 5
— 6

City Boundary

Scoring System - Based on Many Factors

0 - All Local Streets / Low Stress Collectors and Arterials
1 - Low Stress Local Streets like Mifflin and Main St
2 - Medium Stress local or collector with facilities
3 - High Stress collector with facilities / medium stress arterial with facilities
4 - High Stress collector no facilities / medium stress arterial no facilities
5 - High stress arterials with facilities
6 - High stress arterials no facilities
*Reduction in score if near a off street path

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
In EJArea = +15%

Assigning Raw Score Up to 6 Points

19
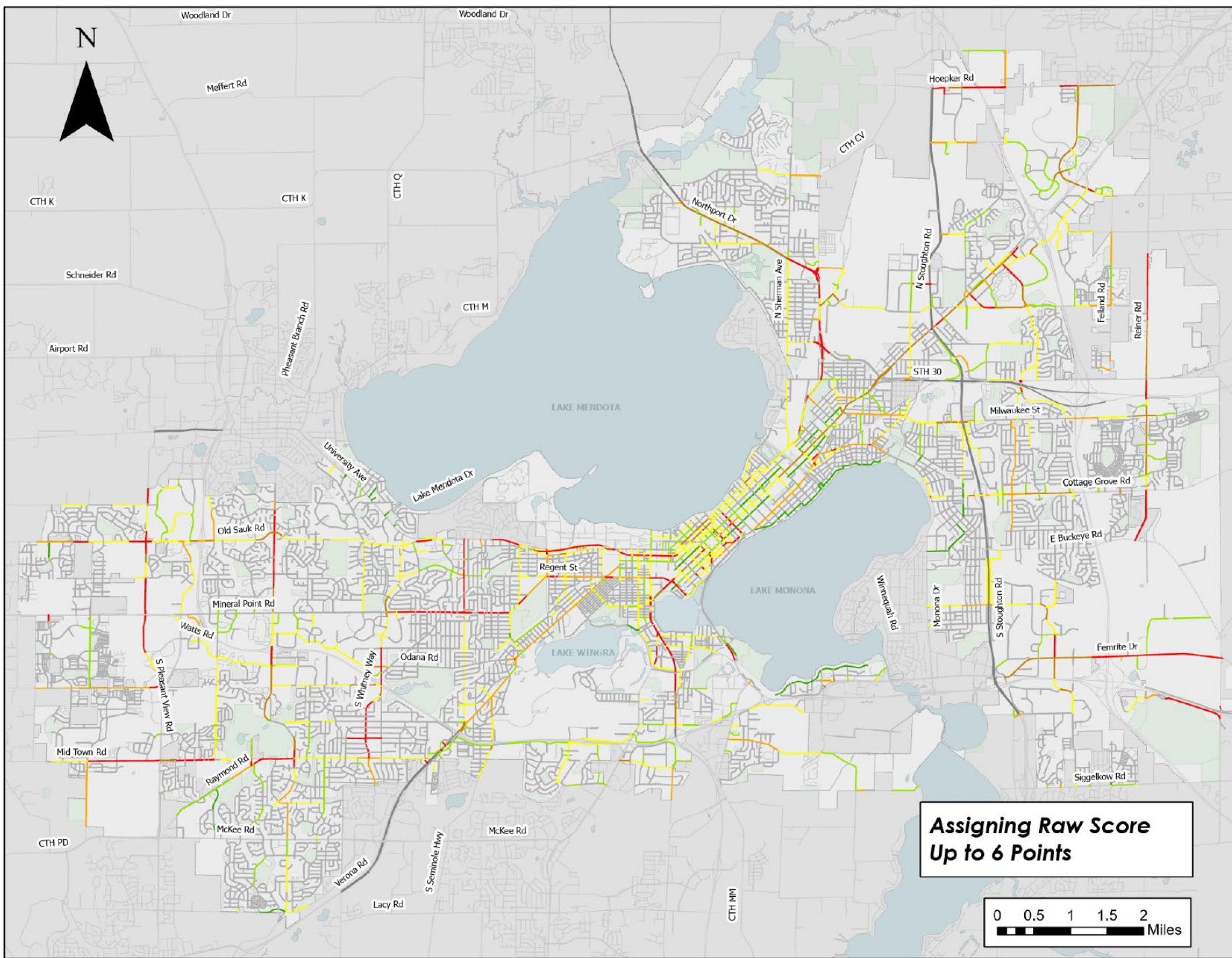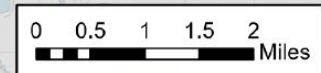
Scoring System Details - Transit

- **System out of 6 Points**

- **In Area = 6 PTS**

- **60ft buffer**

- ***Now includes school routes 60 to 64**

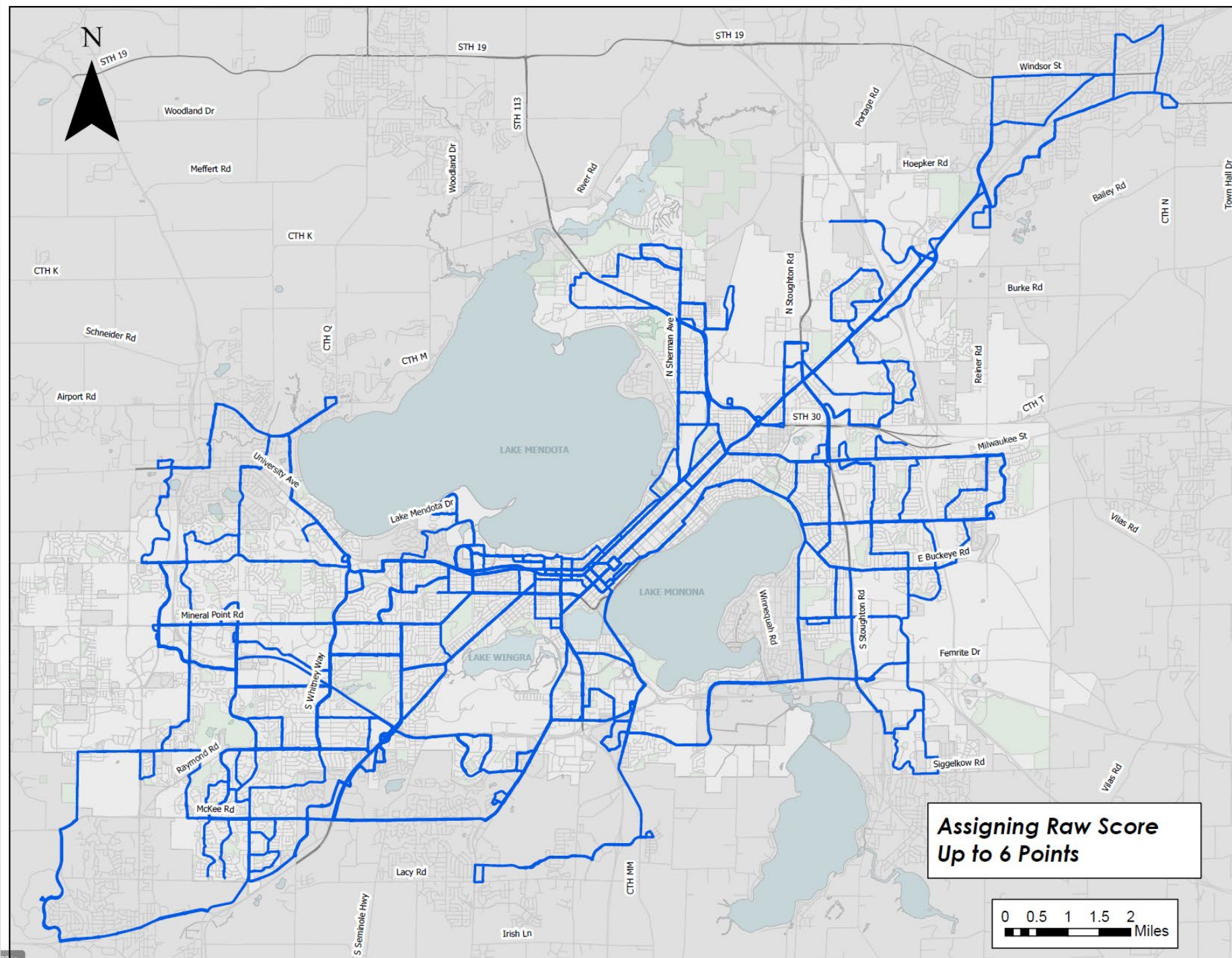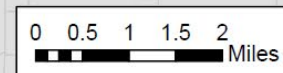TRANSIT NETWORK MAP

2025

Legend

— Transit Network
City Boundary

Assigning Raw Score Up to 6 Points

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
In EJArea = +15%

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Scoring System Details – HIN/Equity

- **Adds "weights" to scoring segments**

- **HIN Network = 5% increase to Raw Score 60ft buffer**

  - Network is expected to be remade in 2025 by UW-Madison

- **Equity Area = 15% increase to Raw Score 10ft buffer**

  - Beta Layer made in finance
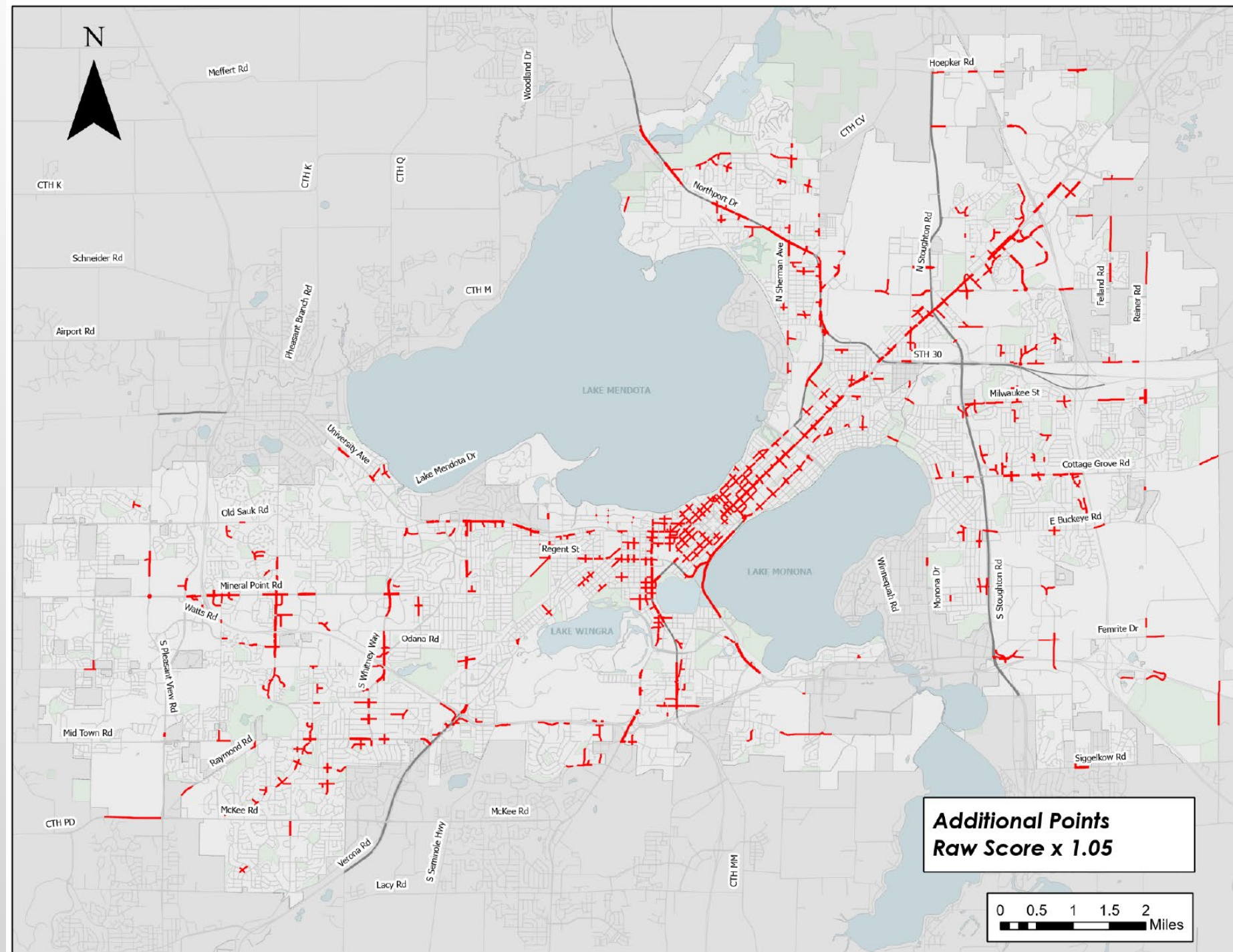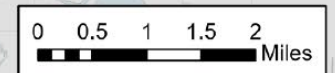
HIGH INJURY NETWORK MAP

2025

Legend

— 2022 High Injury Network

City Boundary

Additional Points
Raw Score x 1.05

0   0.5   1   1.5   2 Miles

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
In EJArea = +15%

23

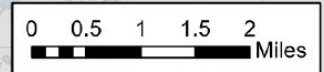**EQUITY PRIORITY MAP**

2025

Legend

▨ Equity Priority Areas

☐ City Boundary

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
In EJArea = +15%

*Additional Points
Raw Score x 1.15*

0   0.5   1   1.5   2
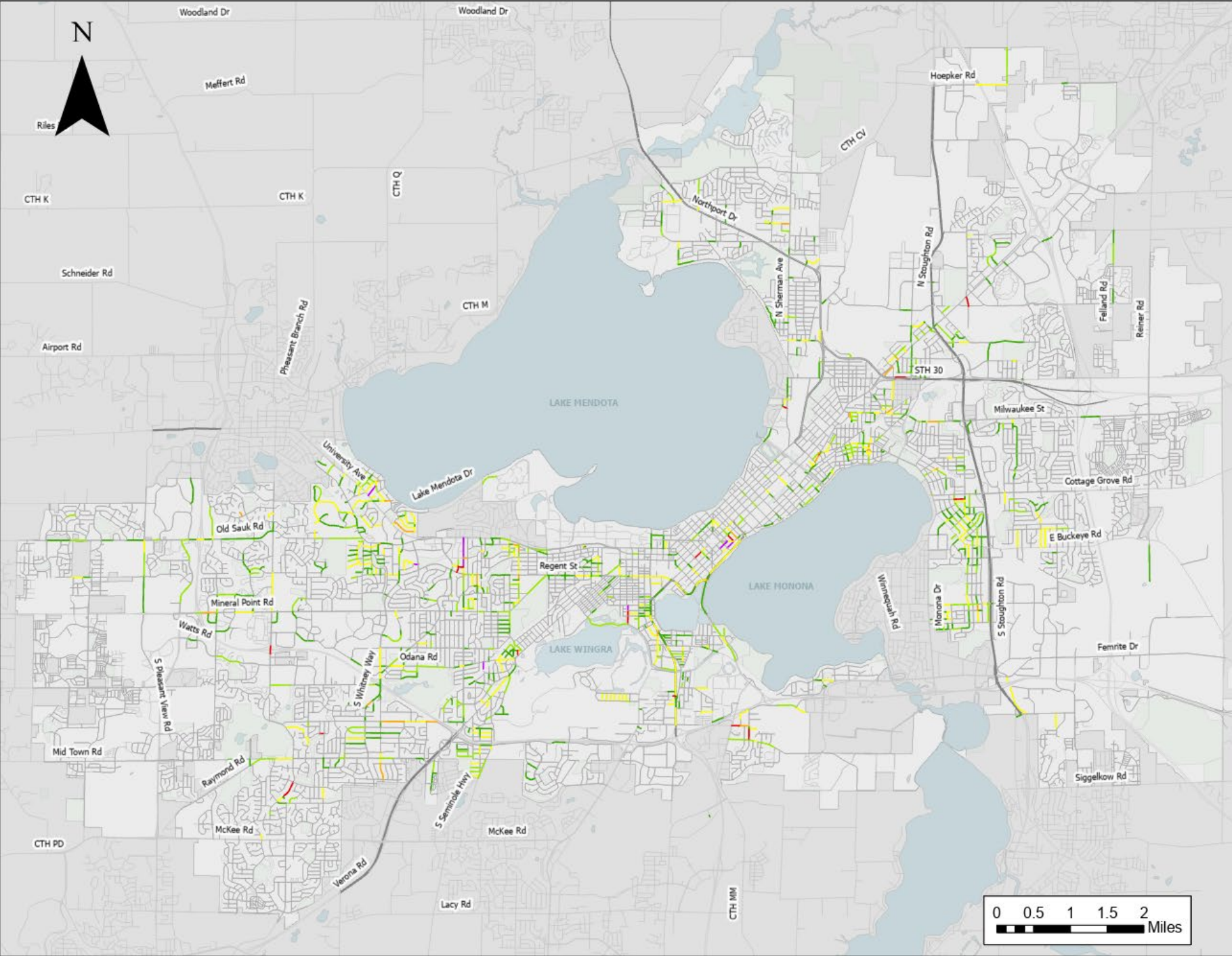Miles

TIP SCORING MAP

2025

Legend

Adjusted Score
- 0 - 30
- 30 - 35
- 35 - 40
- 40 - 50
- 50 - 55
- 55 - 60
- 60+
- City Boundary

TIP Scoring

Pavement = 30
Unique Factors = 20
Sanitary, Water, Storm = 10 ea
Ped = 8
Bike = 6
Transit = 6

Weighting
On HIN = +5%
In EJArea = +15%

Questions, Comments, or Suggestions?