

Walking & Biking in Rural Communities: How Planning, Partnerships & Equity Play a Role

The City Engineers Association of Minnesota
January 26, 2022



Real People. Real Solutions.



Challenges

- Sidewalks are some of the most controversial projects in rural MN
- Overcoming resistance to change
- People not wanting these facilities next to their property
- Proving that it's a good use of public monies when there are so many other needs
- Snow removal
- Lack of a policy or plan



Case Studies



- Plainview Pedestrian/Sidewalk Plan
- Eagle Lake Sidewalks
- Spring Valley Sidewalk
- Trail along Kingsway Dr (CSAH 35) in Le Sueur
- CSAH 22 trail along Elmwood Ave and Ferry St





Case Study

Plainview Pedestrian/Sidewalk Plan

01. Reviewed City ordinances and policies on sidewalks
02. Identified and prioritized sidewalk locations and connections
03. Developed an implementation plan

City Code

- Last revised in 2009
- Construction & Maintenance



Sidewalk Widths

Defines sidewalk widths
No ADA requirements
Reducing sidewalk widths is a suggested method for reducing amount of impervious on a site

Snow and Ice

MUST be cleared within 24 hours of snow event

Subdivision Sidewalks

Sidewalks need to be constructed in all new subdivisions
No explicit requirement that sidewalks must be construction on both sides of the roadway



City will participate in cost sharing for replacement sidewalks, no participation in new sidewalks

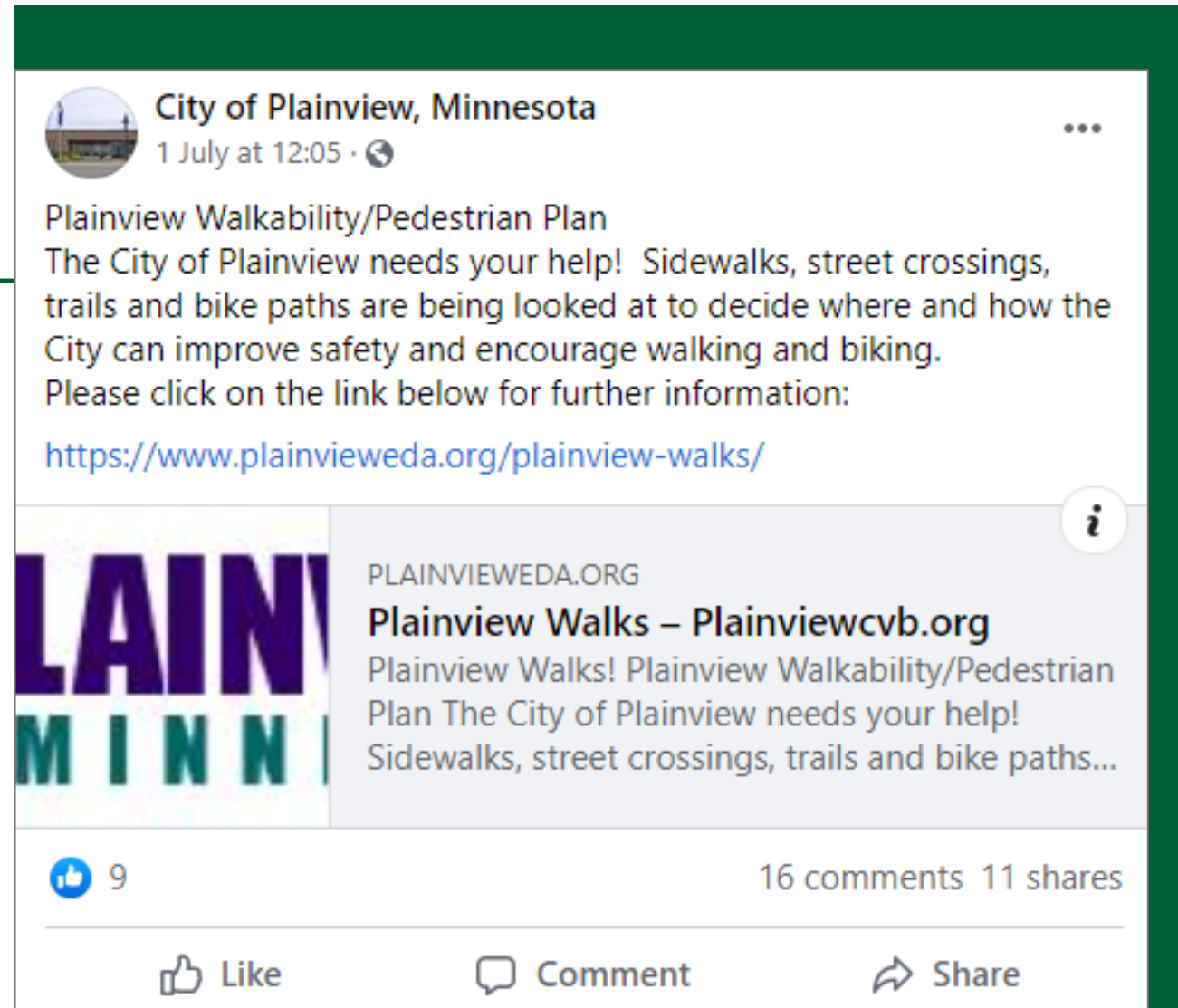
Every property is assessed a small fee on water bills



Community Priorities

Engaged with residents

- Project webpage
- Interactive map
- Survey
- Resident Focus Group
- Public Input Meeting
- (materials in English & Spanish)



Legend

Existing Sidewalks

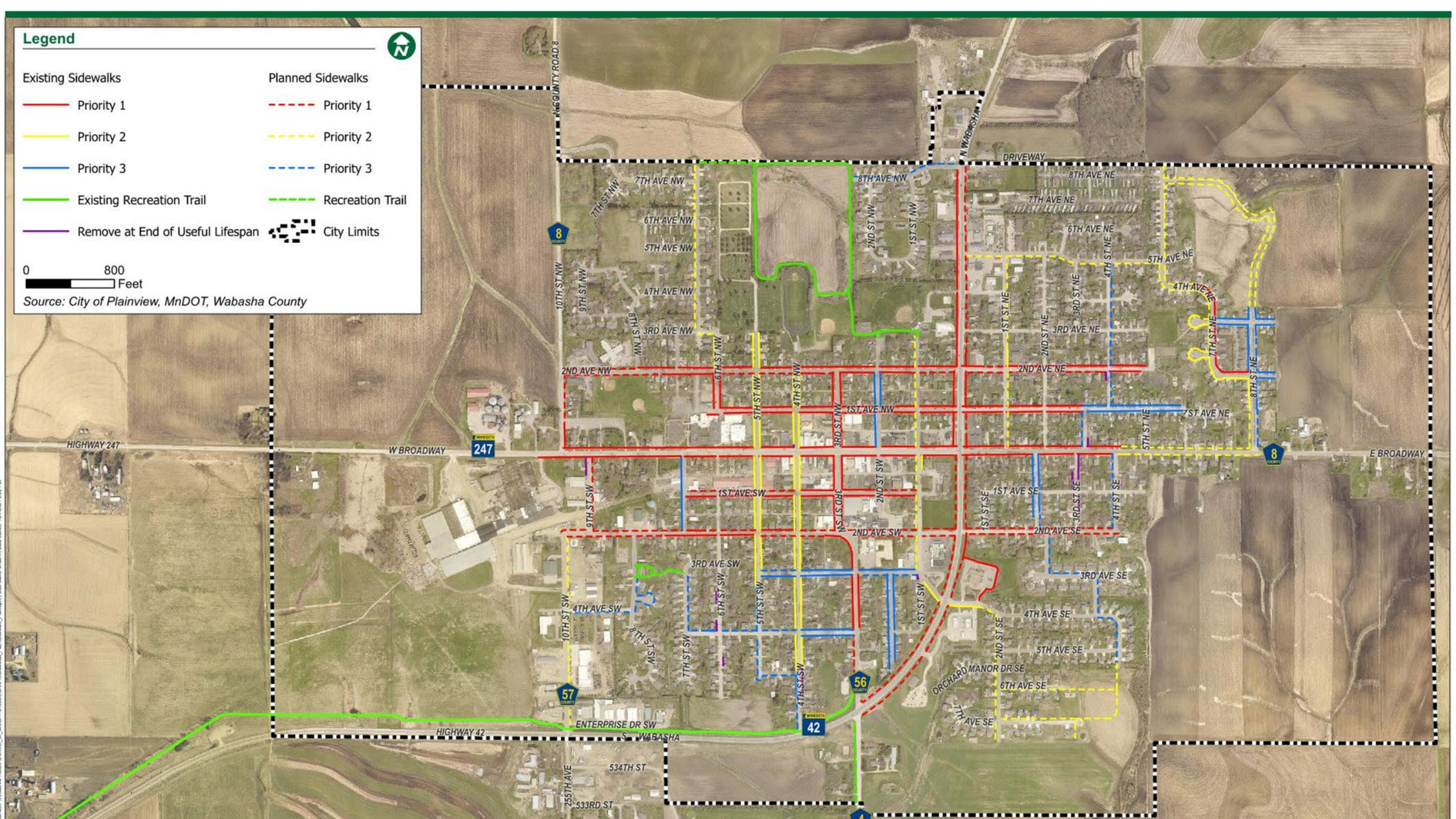
- Priority 1
- Priority 2
- Priority 3
- Existing Recreation Trail
- Remove at End of Useful Lifespan

Planned Sidewalks

- Priority 1
- Priority 2
- Priority 3
- Recreation Trail
- City Limits

0 800 Feet

Source: City of Plainview, MnDOT, Wabasha County

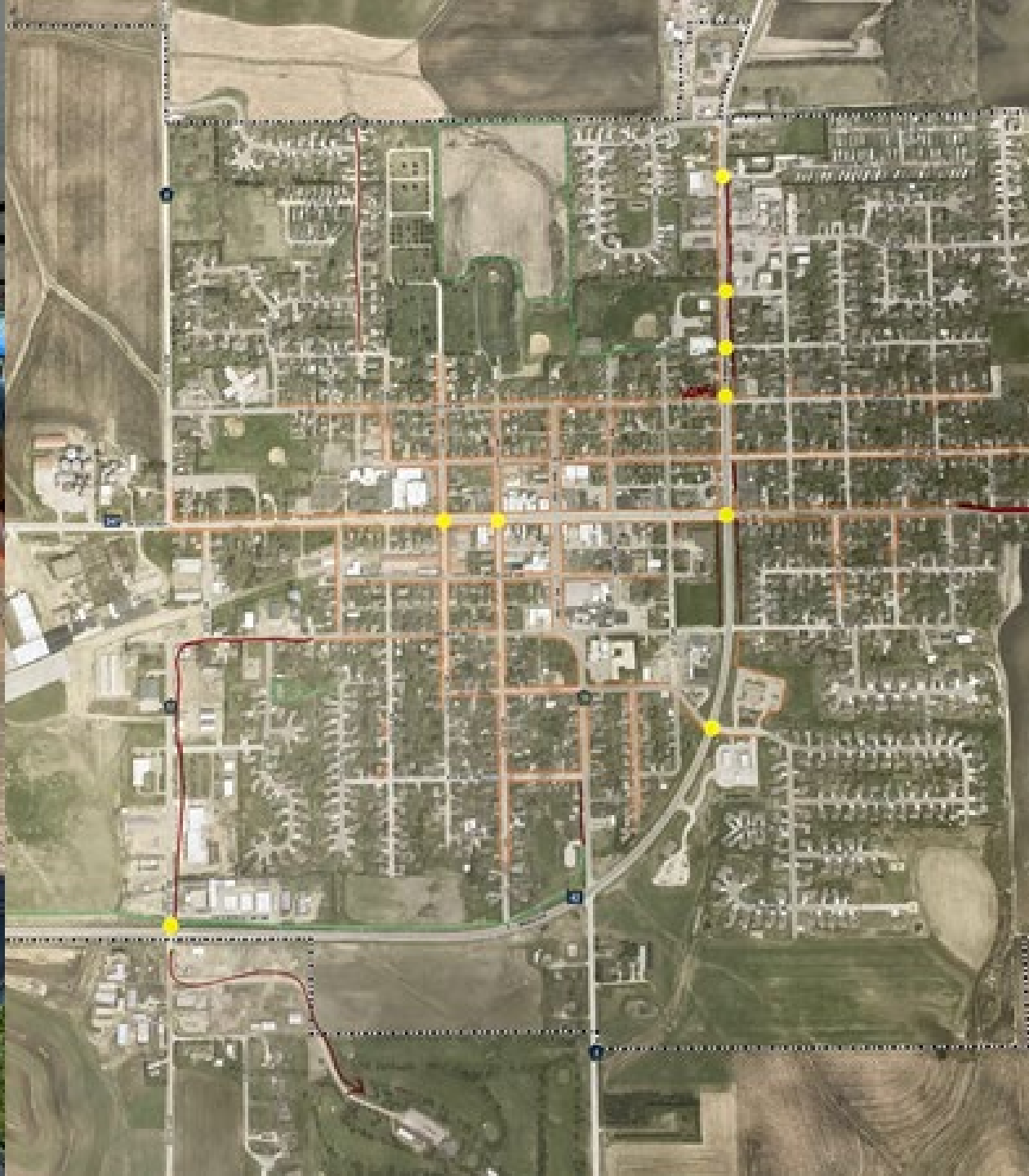




Legend

- Existing Sidewalks
- Existing Recreation Trail
- City Limits

1st Street
Running from Railroad
to the eastern edge
of the city limits
at the 1st Street
intersection
(see map)



Recommendations & Implementations



Policy Revisions

- Revise ordinance to reflect city's current policy to provide all sidewalks w/ fee assessed in monthly billing
- Consider additions to prevent vehicles, especially RV's and boats, from creating temporary obstructions
- Revise language to ensure sidewalks aren't reduced below 5' or eliminate altogether to reduce a site's impervious
- Subdivision language should be amended to provide additional guidance



Funding & Implementation

- Current funding levels would take 35 to 45 years to implement full network
- Opportunities to expedite Priority 1 network:
 - Focus on gaps and small connections
 - Incorporate sidewalk construction into future roadway projects
 - Work w/ jurisdictional partners on cost sharing opportunities
 - Work w/ MnDOT to identify grant opportunities through Trans Alt Program
 - Complete SRTS Plan
 - Evaluate future increases to the sidewalk fee



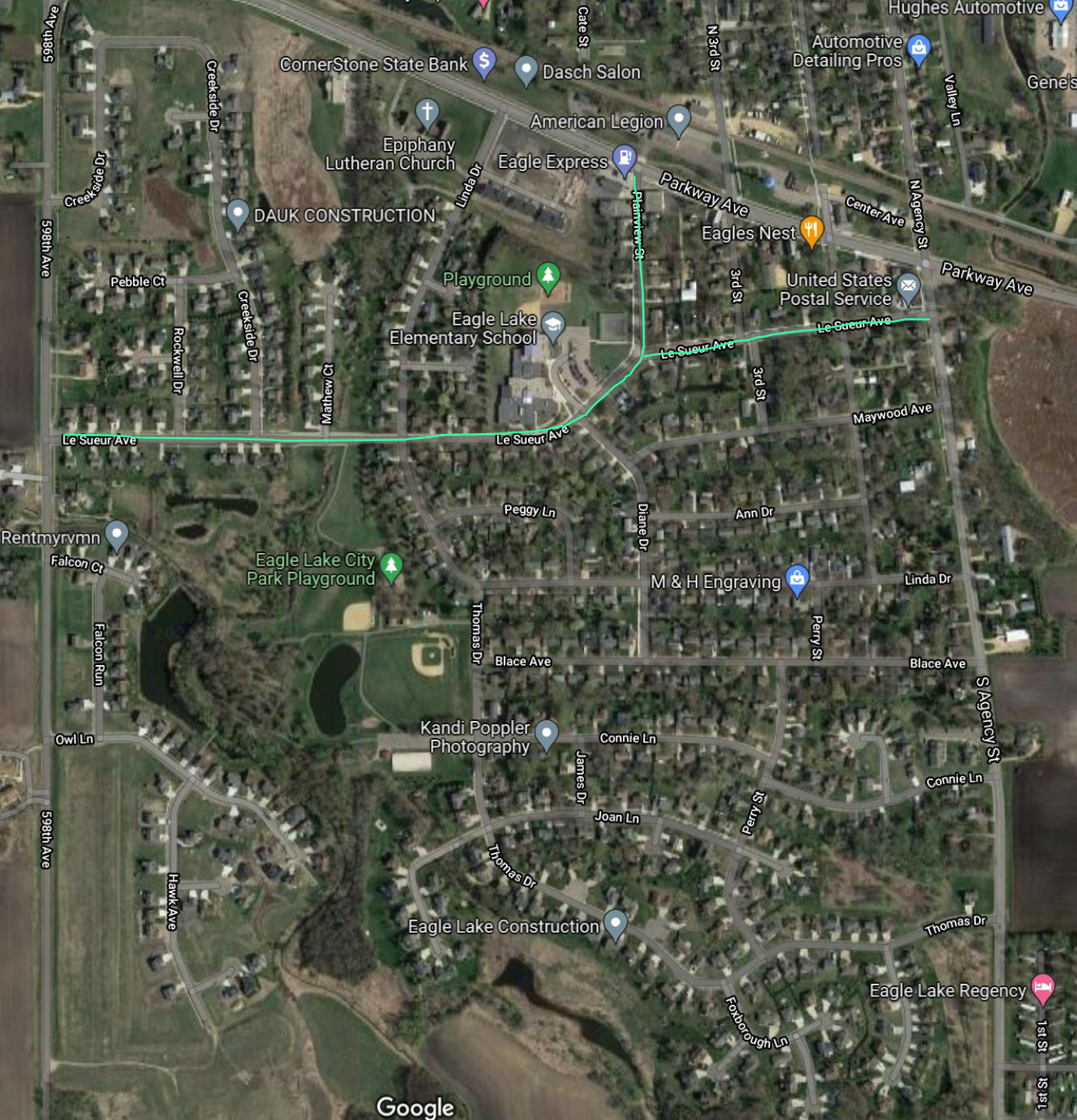


Case Study

Eagle Lake

- 01.** Successful SRTS Plan
- 02.** Joan Ave successfully put in sidewalks
- 03.** Public push-back on both





SRTS Plan

- Developed in 2015
- Noted existing sidewalks along Plainview St, Le Sueur Ave, and Diane Dr
- Planned for sidewalks along Linda Dr from Parkway Ave to Thomas Dr and Thomas Dr from Linda Dr to S Agency St

Joan Ln Sidewalks

- Successfully installed along north side



Case Study

Spring Valley Sidewalk Policy











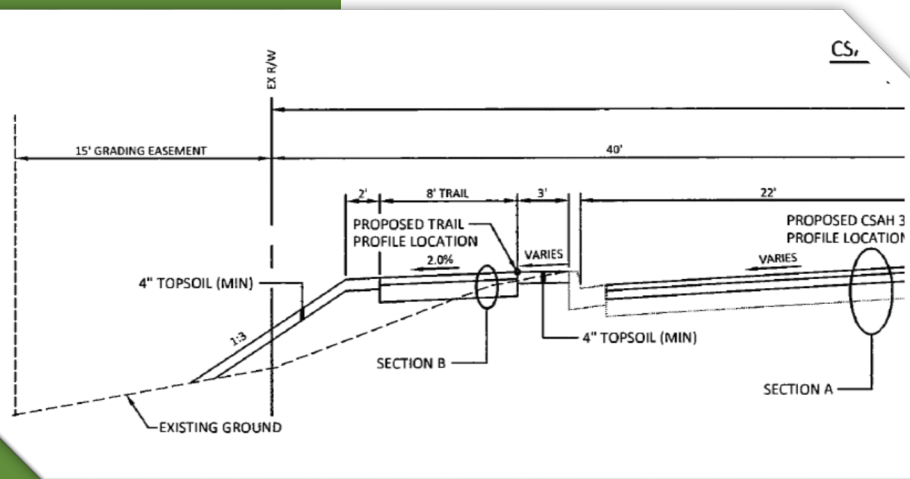


Case Study

Trail along Kingsway Dr in Le Sueur

- 01.** First major trail route in City of Le Sueur.
- 02.** Constructed in 2014 utilizing both City and County dollars.
- 03.** Frequently used with connection to high school, elementary school, multi family housing, dog park, and residential neighborhoods.





Implementation

- Project originated as a County pavement rehabilitation project.
- City staff successful in expanding scope to include construction of new bituminous trail along full corridor, including financial support from County.
- Trail based on strategic connections (i.e. schools, dog park, etc.) is frequently used and viewed as a successful story.





Case Study

CSAH 22 Trail in Le Sueur

- 01.** Unique turnback project transferring jurisdiction from MnDOT to County, which required improvements consisting of both rural and urban.
- 02.** County supported new pedestrian facilities based on adopted transportation plan.
- 03.** City was able to negotiate upgrade to a new trail based on adopted comp plan.



Planning

Adopted Le Sueur County Transportation Plan

See clipping from plan, below

Sidewalk/Trail – Sidewalks and/or trails are encouraged in urban area adjacent to all Minor Collector, Major Collector, and Minor Arterial roadways to accommodate pedestrian, bicycle, and other non-motorized travel in a safe and comfortable manner and would be developed as a result of local initiative and funding. If bituminous trails are desired, an 8'-10' section meeting Mn/DOT bikeway standards is recommended. Concrete sidewalks of 5'-6' wide should be designed to comply with American's with Disabilities Act (ADA) requirements.



Adopted City of Le Sueur Comprehensive Plan

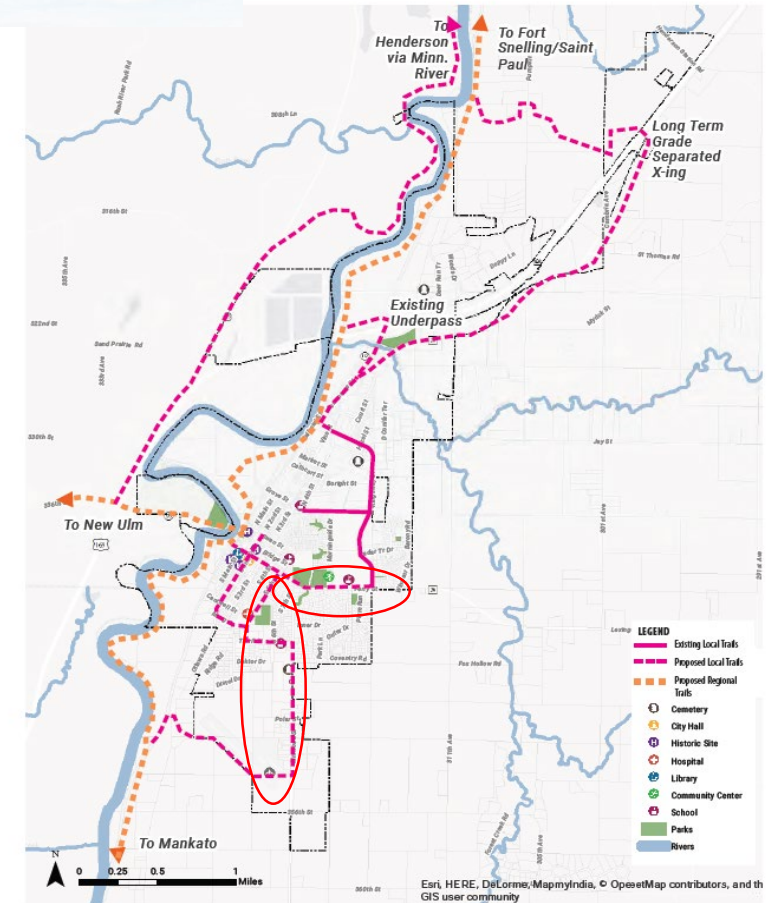


Figure 4.11 – New Trail Connections



These adopted plans provided background for elected officials to support the proposed improvements.



Planning



Le Sueur County
Transportation Plan

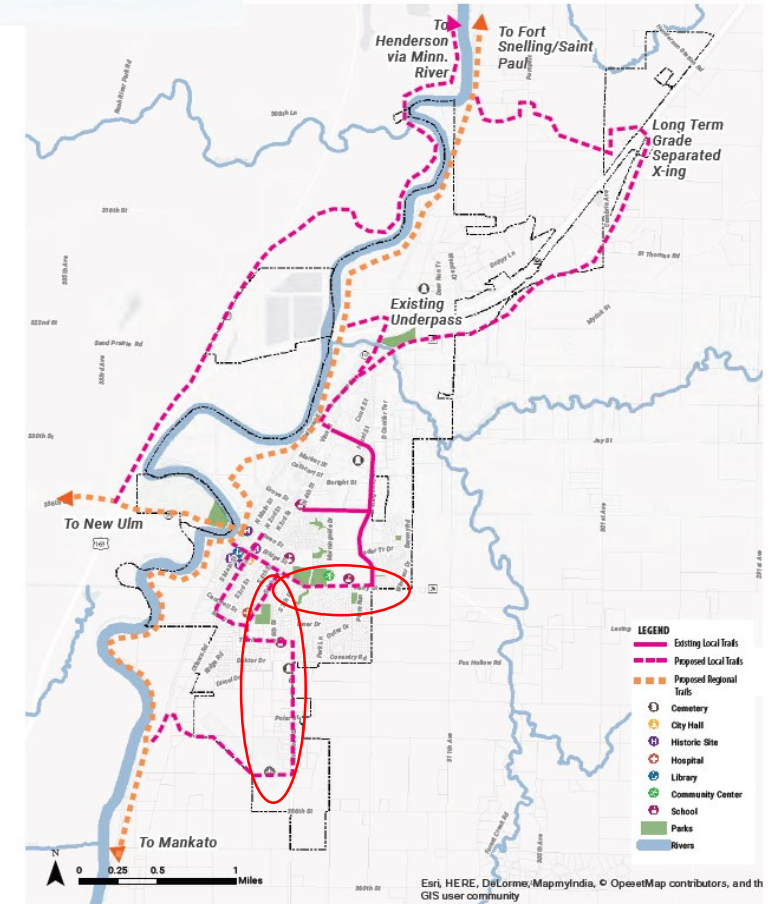
“Trail and sidewalks are the basic building blocks that allow for active living and active transportation throughout a community. Improving the trail network strengthens recreational opportunities, economic opportunities, and overall quality of life.”



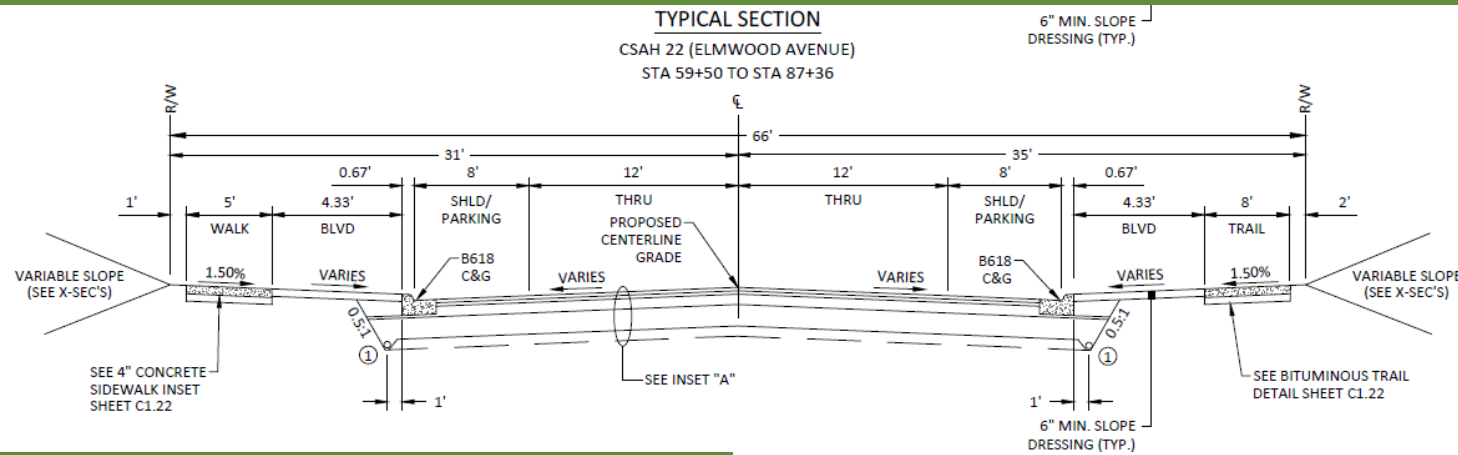
These adopted plans provided background for elected officials to support the proposed improvements.



Adopted City of Le Sueur Comprehensive Plan



04: Master Plan 59
Figure 4.11 – New Trail Connections



Implementation

Sidewalk and Trail Maintenance Policy:*

The City will remove ice and snow from sidewalks that are adjacent to City trails.

The City will remove ice and snow from City trails.

- County minimum section included both sidewalk sides in urban environment. County supported construction of a trail based on City agreement that would cover additional cost.
- County supported shift of roadway centerline to fit new trail within the existing right-of-way.
- City policy states snow removal on all trails is the responsibility of the City.
- To assist with public support, the City passed snow removal policy* to provide snow removal on all sidewalks adjacent to a trail route.



BEFORE



AFTER



Post-Construction

- Positive feedback, with frequent-use observed and adjacent homeowners expressing support of new pedestrian facilities.
- County and City working together on another reconstruction project (CSAH 36) and existing condition does not have sidewalk both sides. Homeowner feedback received from the first public meeting was in support of extending sidewalks like the CSAH 22 project.



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Lessons Learned

1

Resistance up front, but well received when proven effective

2

Fears or concerns are diminished once facilities are completed and in use

3

Agency partnerships can prove very effective

4

Biggest obstacle? Lack of overall plan showing how the city envisions the future sidewalk system

Also applies to bike infrastructure

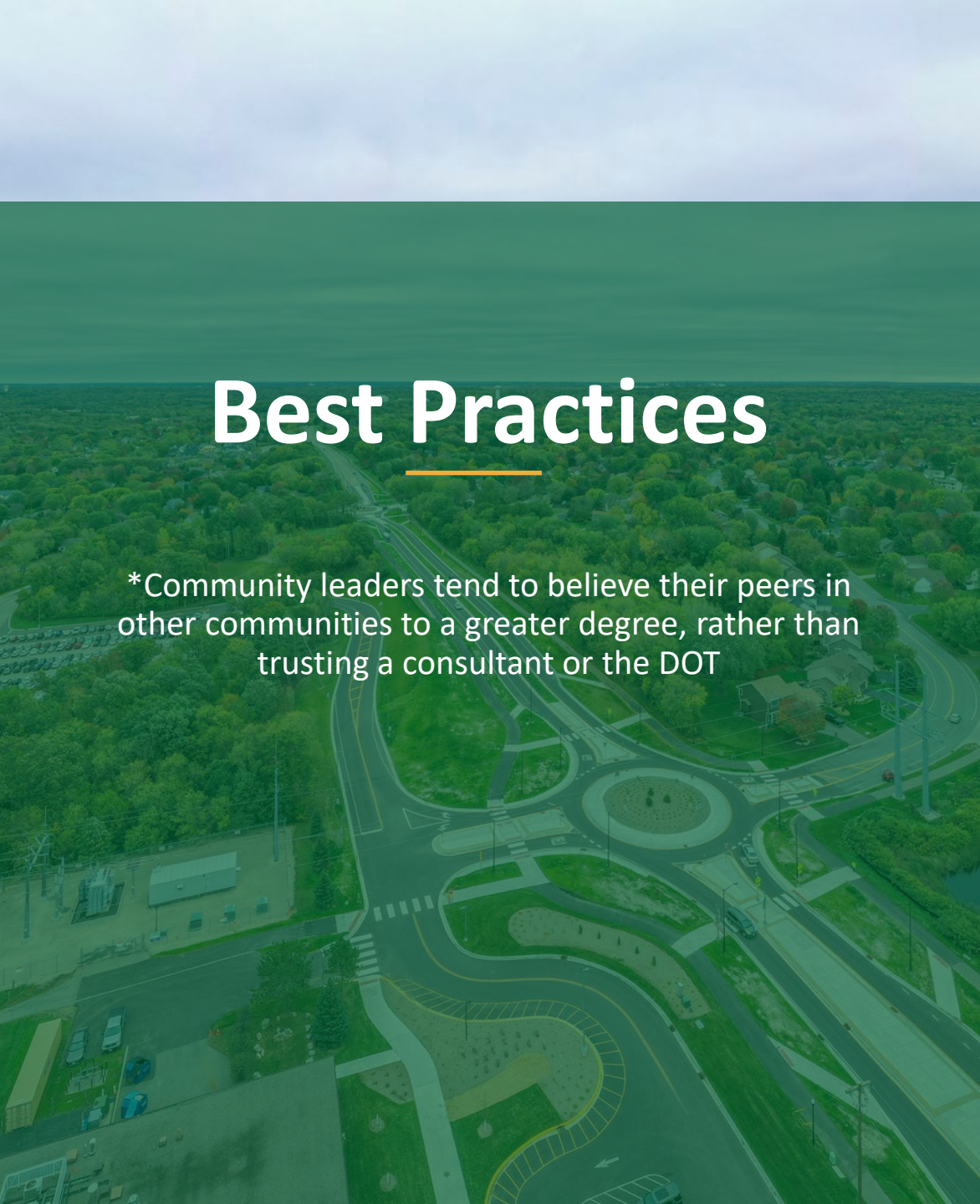
5

Have policies for new subdivision developments that require sidewalks, preferably on both sides of every street

Le Sueur Example:

- County receptive to a trail
- Allowed shifting centerline to fit within ROW
- City willing to pay 100% of extra costs associated with trail over a sidewalk





Best Practices

*Community leaders tend to believe their peers in other communities to a greater degree, rather than trusting a consultant or the DOT

- 01.** Have the community leaders visit other communities where similar facilities are installed*
- 02.** Cities should develop a very basic pedestrian / sidewalk plan (include bike facilities if needed)
- 03.** City of Rochester has a policy where they only require residents to plow a 5-ft width on multi-use trails in the winter



Thank You!



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Active Transportation Project Manager



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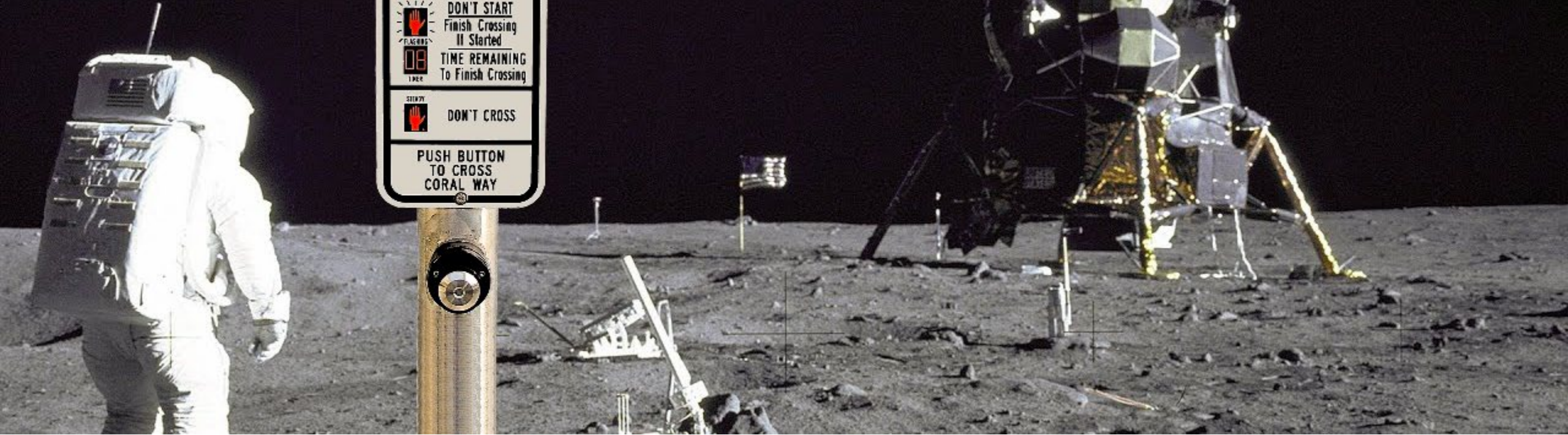


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Real People. Real Solutions.



SPACE: The New Frontier

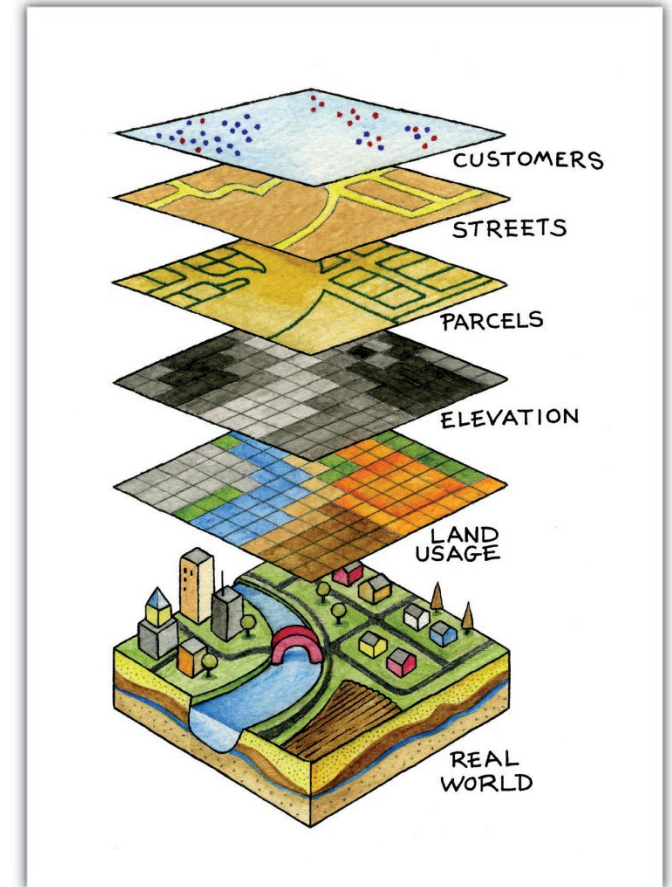
Sonja Piper

Office of Traffic Engineering

January 26, 2022

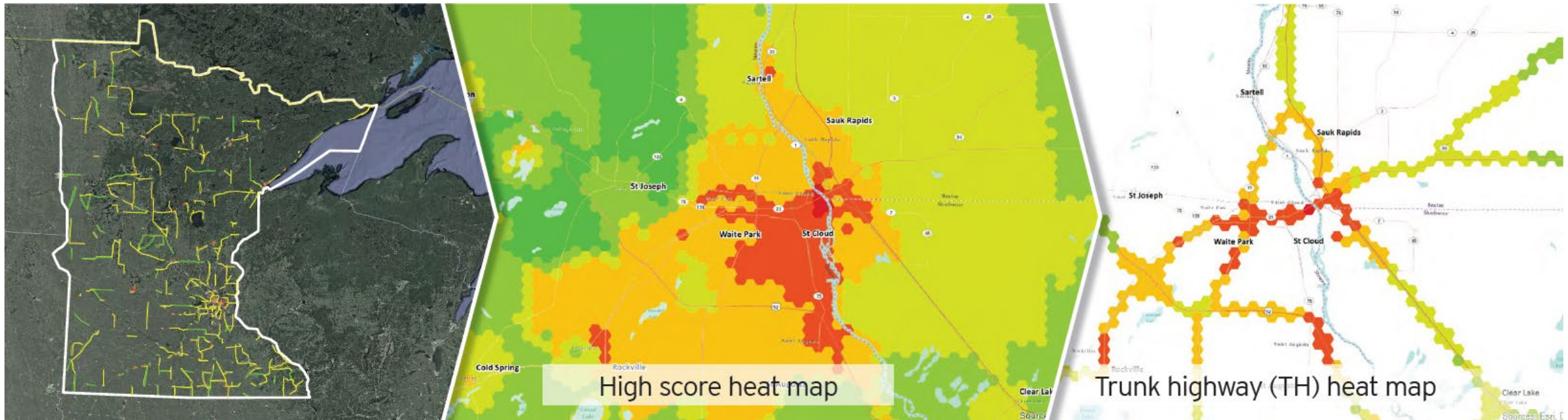
Key Takeaways

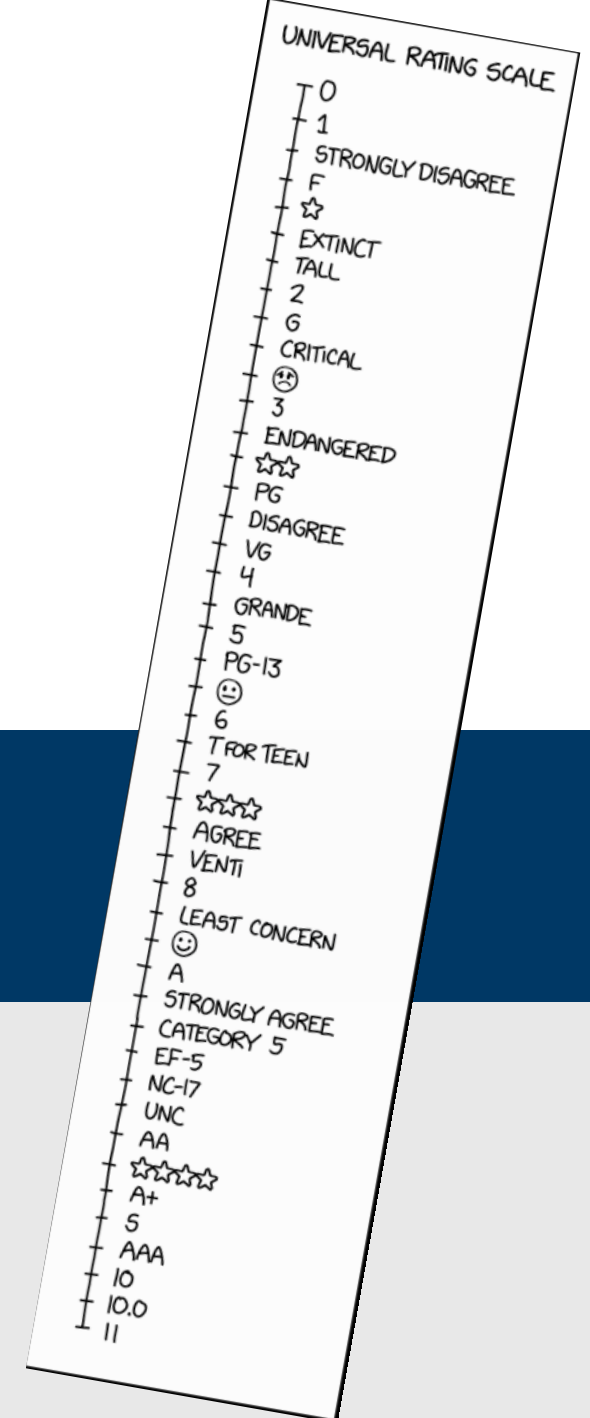
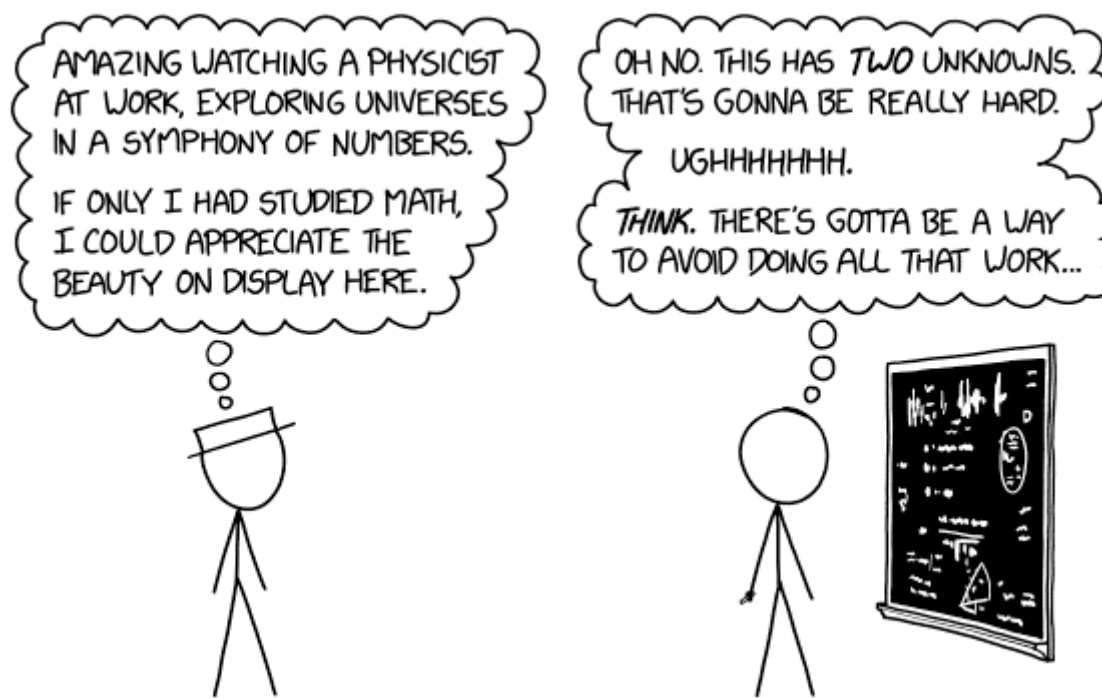
- Layering data stories builds a more complete picture.
- Equity analysis is a missing layer.
 - We already do safety analysis, are there gaps?
- Let data—not intuition—guide you
- Keep it simple
 - Numerical, scaled values, binary thresholds



Active Transportation Project Scoping

- Coordinate project selection with Districts
- Use high-level screening tool to select projects
- Field walk each project location and prepare recommendation report





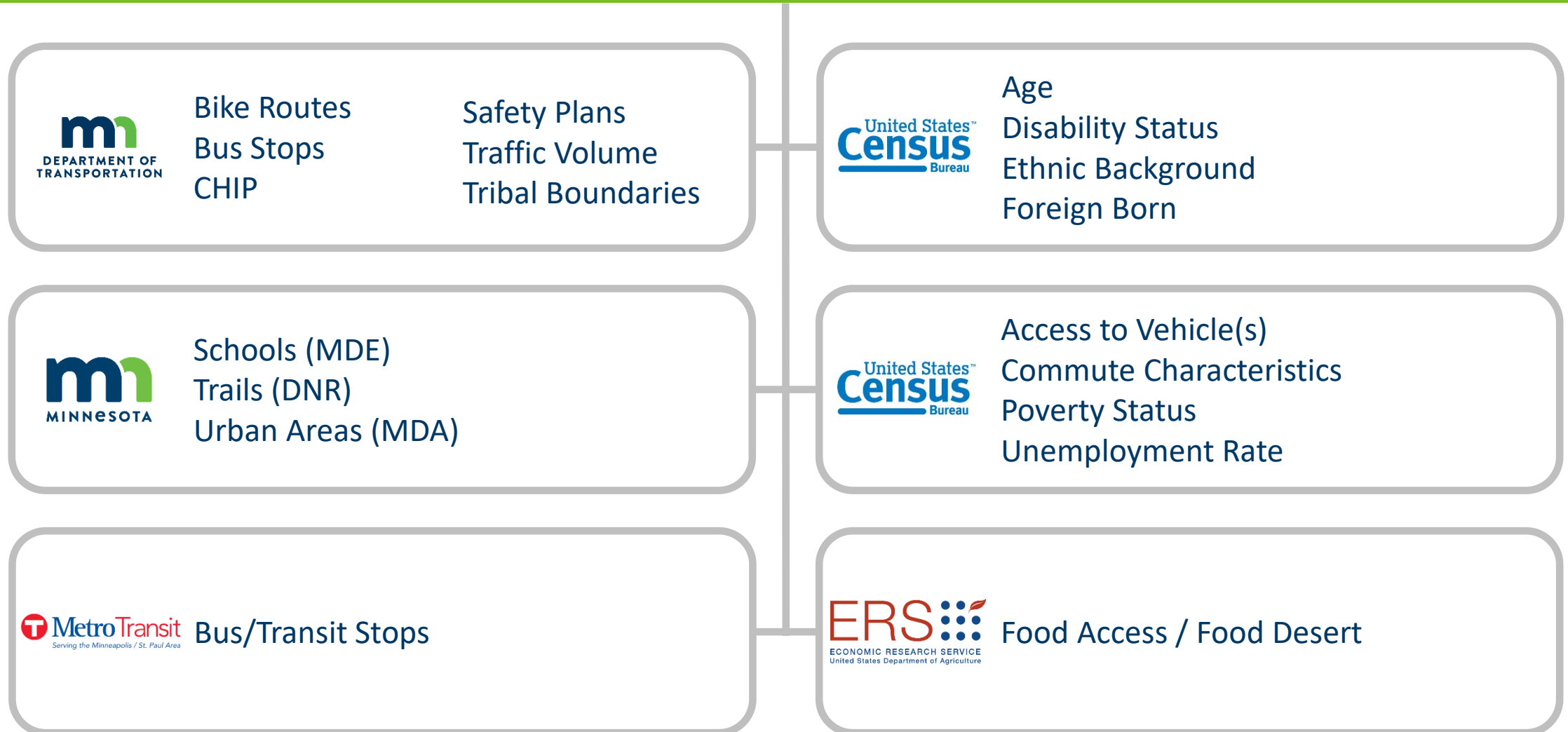
Can We Measure That?!

Combing for Data Sources

- Screening Criteria
 - a. Spatially represented
 - b. Consistent across entire state
 - c. Localized, i.e. smallest area possible
- Preference
 - a. Non-roadway attributes
 - b. Maintained by other

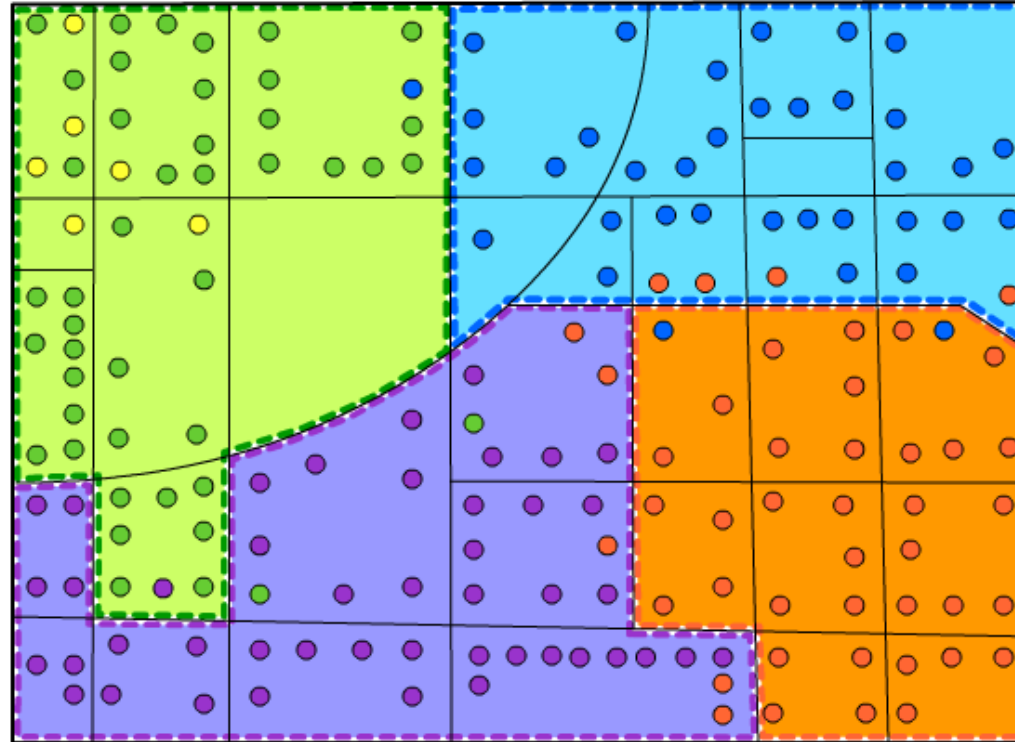


Chart of Sources



ZIP Code Tabulation Areas (ZCTAs)

8



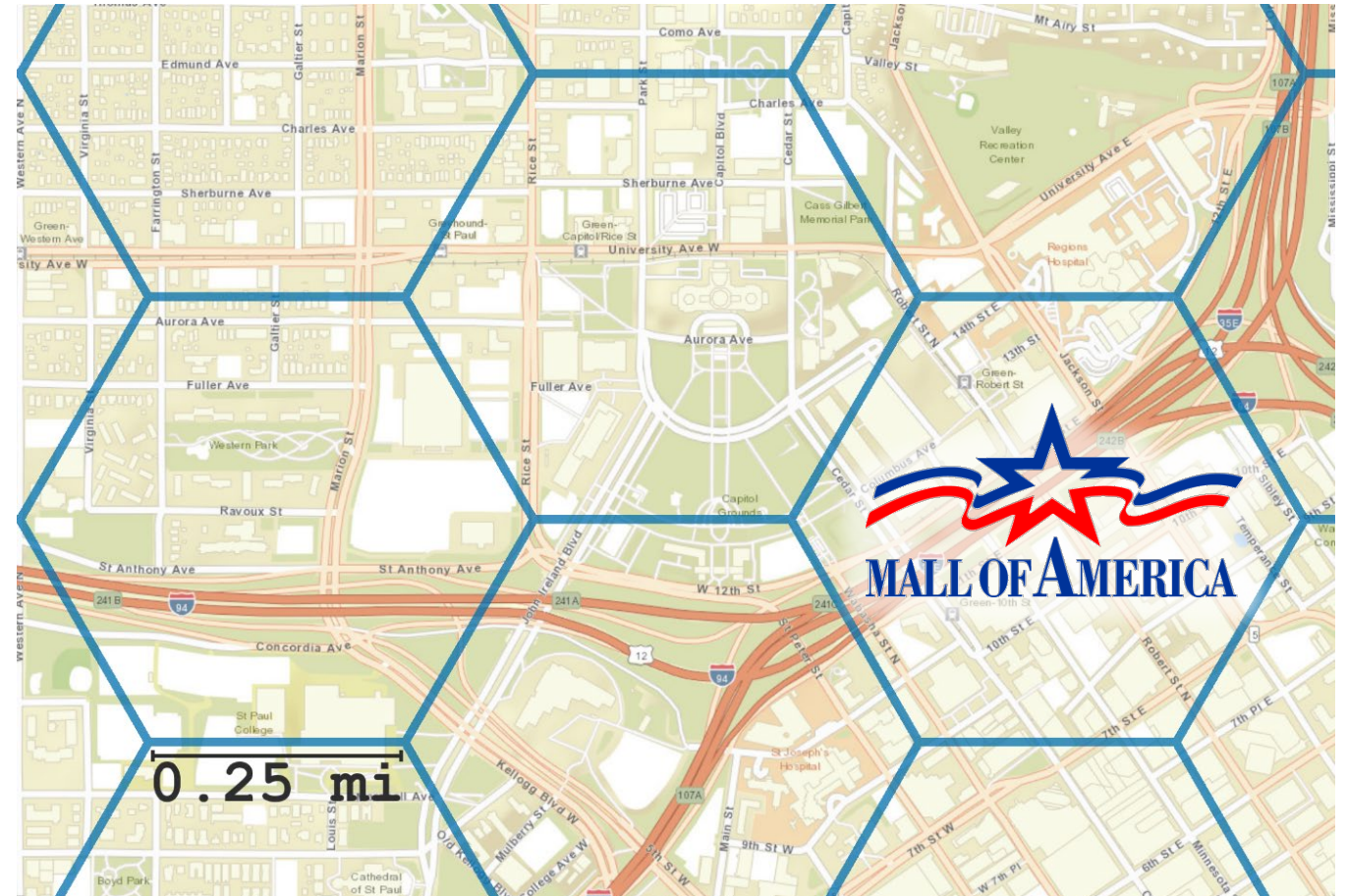
www.census.gov/geo/reference/zcta/zcta_delin_anim.html

Interactive review

During the interactive review, the following steps were performed: evaluation of the overall shape of the ZCTAs, removal of erroneous and invalid ZCTAs, evaluation of sliver geography, expansion or reduction of large unpopulated areas larger than two square miles, and verification of cross state ZCTAs.

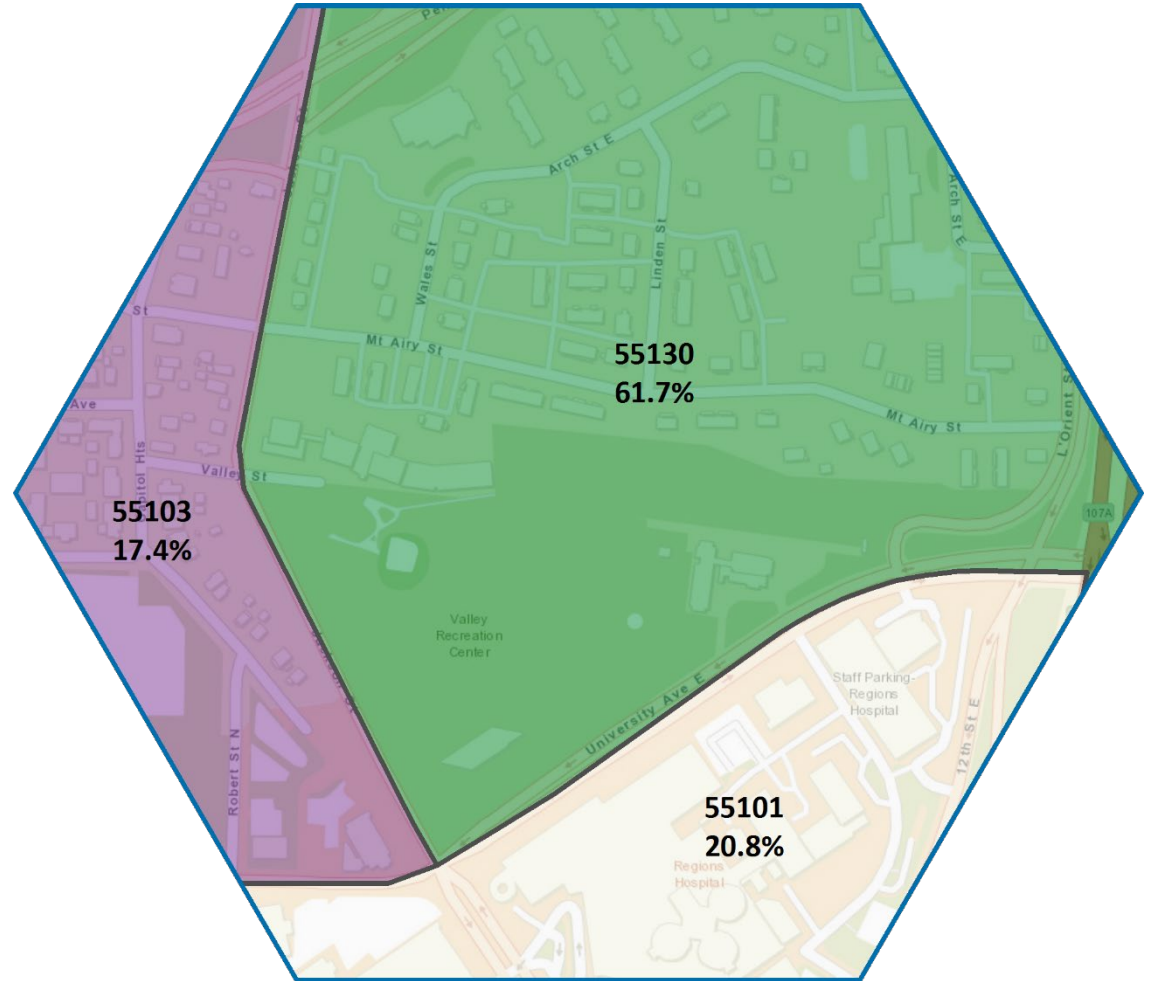
Standardized Grid

- Roads tend to be boundaries
- Hexagons
 - a. Regular tessellation
 - b. Edges equidistant from center
- Contouring

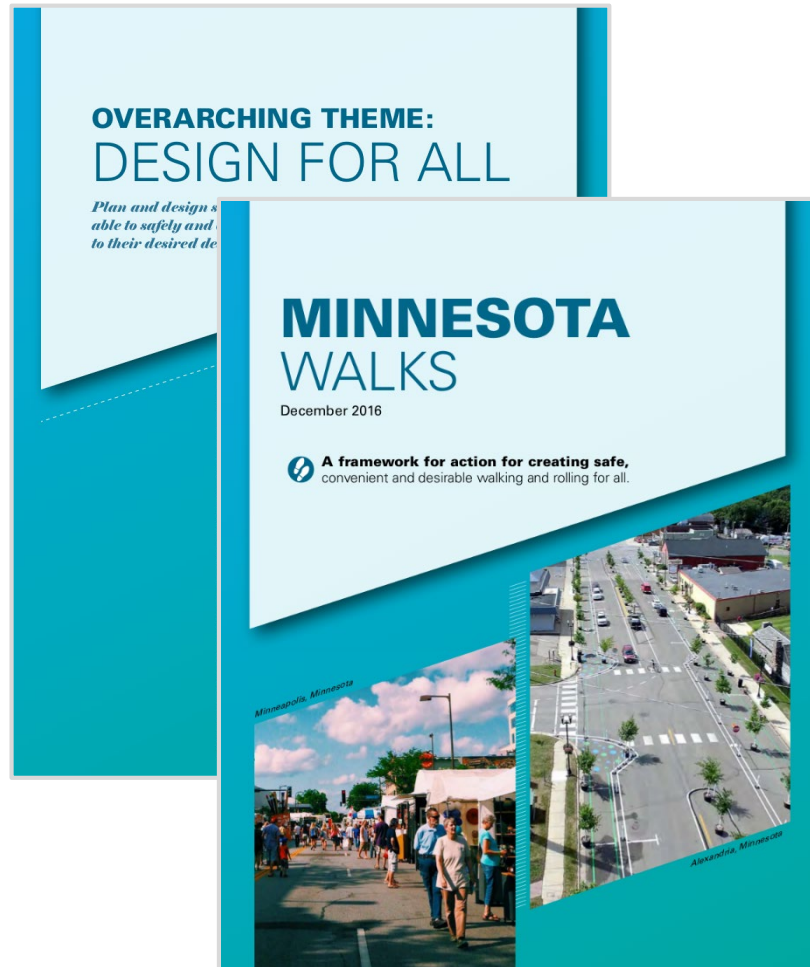


Aggregating

- Weighted average by percent of area
- Assumed uniform distribution across geography
- Not unreasonable if data at relatively fine grain



Target Populations



- MN Walks Priority Populations
 - a. Small, rural communities
 - b. Urban, low-income
 - c. Children & youth
 - d. Older adults
 - e. Native American
 - f. People with disabilities
- Other walking/biking factors

Building an Intuitive Score

a. Pithy Name

- Suitability of Pedestrian And Cyclist Environment (SPACE) Score

b. Binary Thresholds

- Integrate into existing processes
- Spend resources on analysis rather than complex metrics

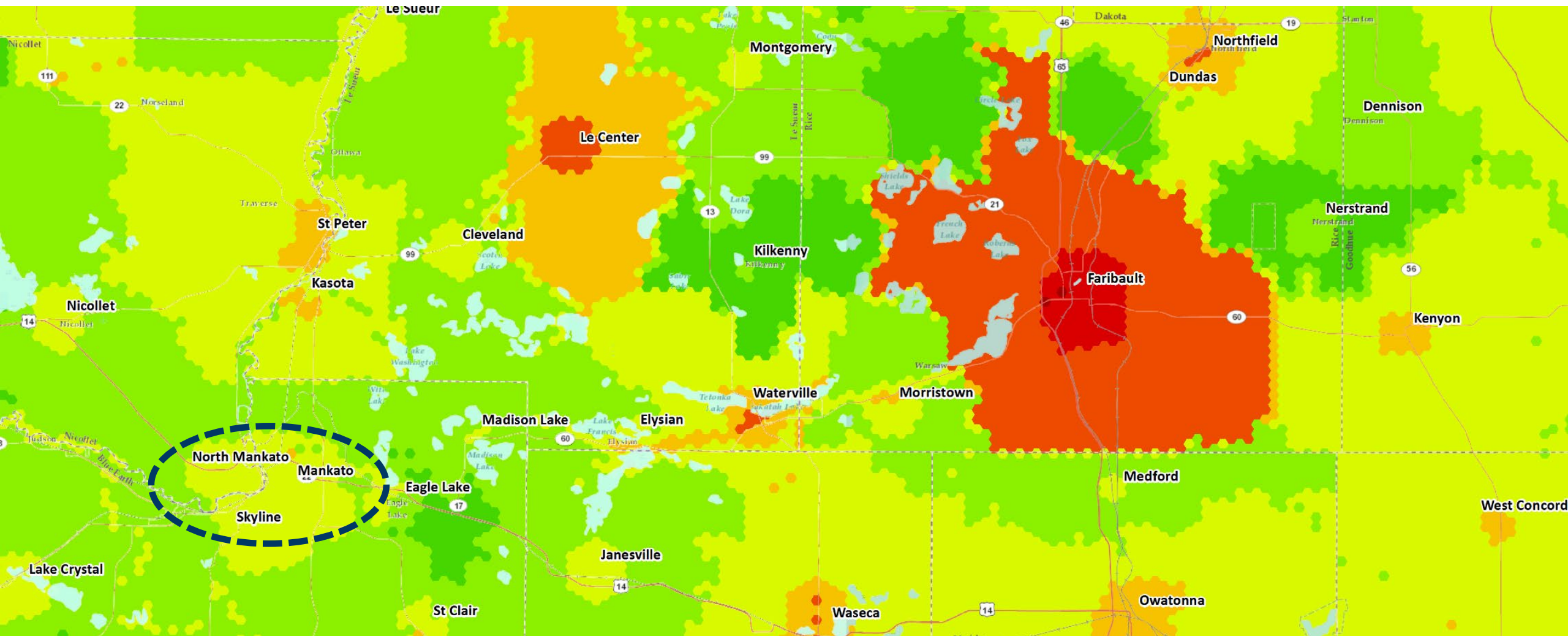
c. Scaled Out of 100

- “What percent of this project has characteristics for further consideration?”

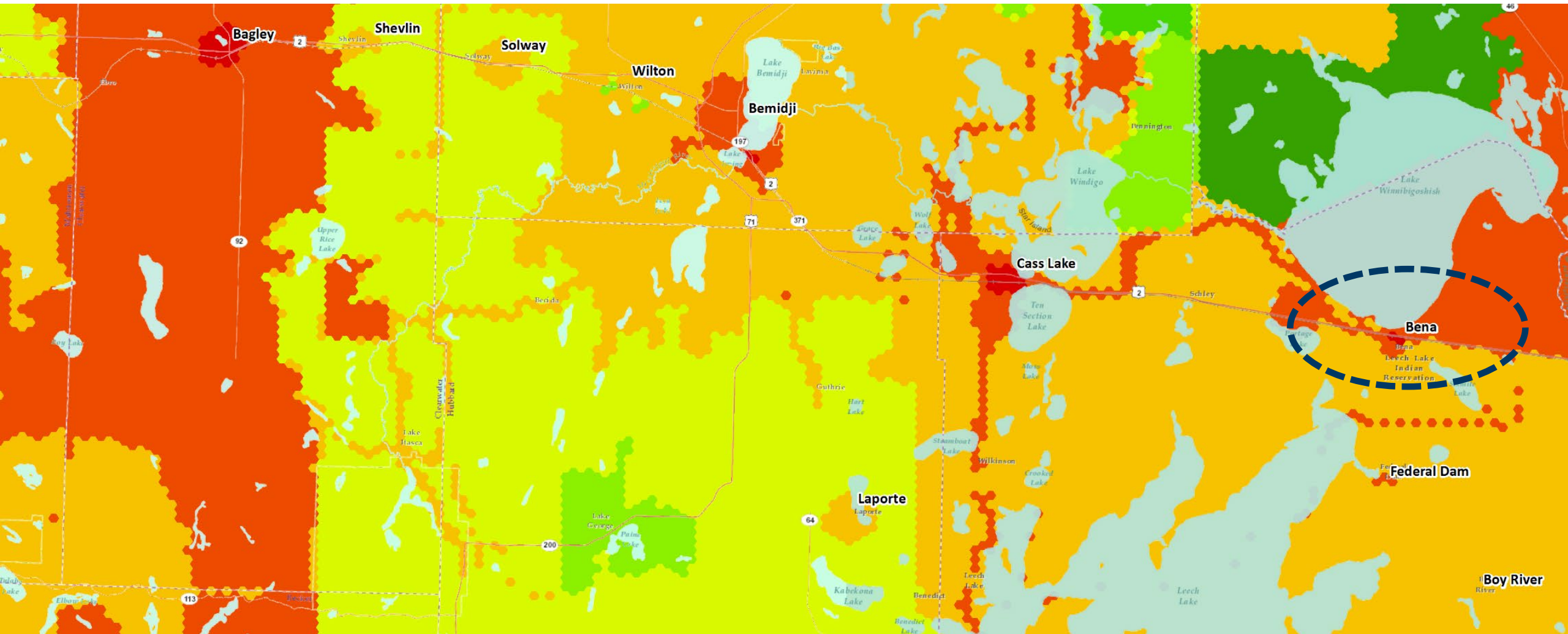
SPACE Score Definition

Priority Populations	Percent of population AGE 5-17 > average	Percent of workers COMMUTING 15 MIN or less > average	Latent Demand
	Percent of population AGE 65+ > average	Percent of workers COMMUTING BY TRANSIT > 0%	
	Percent of population FOREIGN BORN > average	Percent of workers COMMUTING BY WALKING > 0%	
	Percent of population NATIVE AMERICAN > average	Percent of workers COMMUTING BY BICYCLE > 0%	
	Percent of population with DISABILITY > average	Percent of workers with NO ACCESS TO A VEHICLE > 0%	
E.J.	“Area of concern” by MPCA ENVIRONMENTAL JUSTICE	≥ 25% population within half-mile of SUPERMARKET	Trip Generators
	UNEMPLOYMENT rate ≥ average	Within 1-mile of K-12 SCHOOL	
	Percent of population in POVERTY IN URBAN area ≥ 25%	Within 500 feet of BUS STOP	
Risk	HIGH RISK trunk highway intersection for non-motorists	Within an URBAN area	
	<i>19 factors</i>	Contains a state BICYCLE TRAIL	

Mankato, MN



Bemidji, MN





Systemic/Proactive Safety Story

District Safety Planning

- Identify at-risk intersections, suggest countermeasures, reduce K+A crashes
- Analyzed characteristics at over 2,600 intersections
- What characteristics are over-represented?
 - Example: outside of the Metro, signals make up 18% of urban intersections but are involved in 73% of severe non-motorist crashes and 55% of all severe crashes!
- Created ranking system for intersections

Intersection Risk Assessments

- Intersections Analyzed
 - On state highway
 - Within city limits
 - Manually supplement dataset!
- Over-representation?
 - Is the percent of severe crashes greater than the percent of sites?
- Factors
 - a. Vehicle traffic volumes
 - b. Signalized
 - c. Major route posted speed
 - d. Skew
 - e. Primary land use
 - f. Lighting
 - g. Street parking

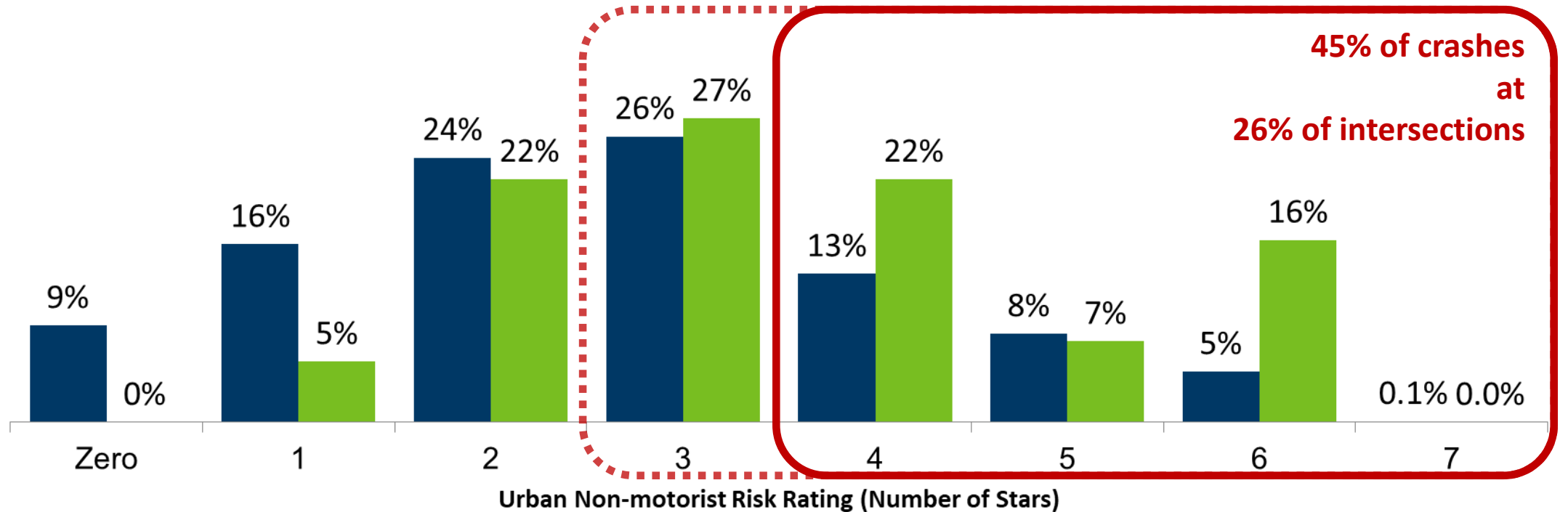
Can we identify high risk sites?

TRUE

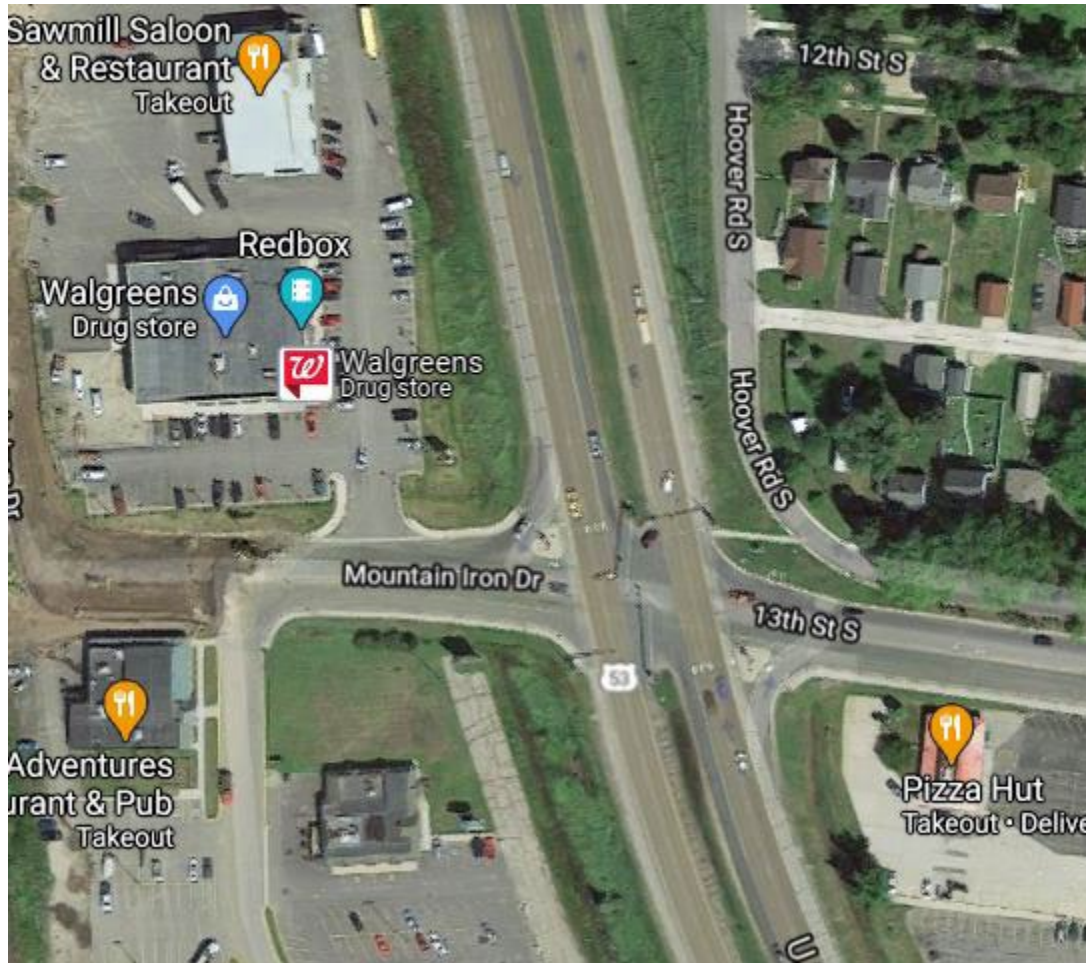
Statewide District Safety Plan Intersection Risk Rating

2014-2015 Fatal and Serious Injury Crashes

■ Intersections ■ Non-motorized K+A Crashes



Applying the Risk Rating



Virginia, MN

1/26/2022



Cross Product

Major = 14,900
Minor = 2,600
xProduct = 39M



Traffic Control

Signal



Major Speed

Posted 45 MPH



Skew

15 degrees



On/Near Curve

Yes



Land Use

Retail/Suburban
Primary



Severe Crashes

1 ped/bike KA crash
in 5 years

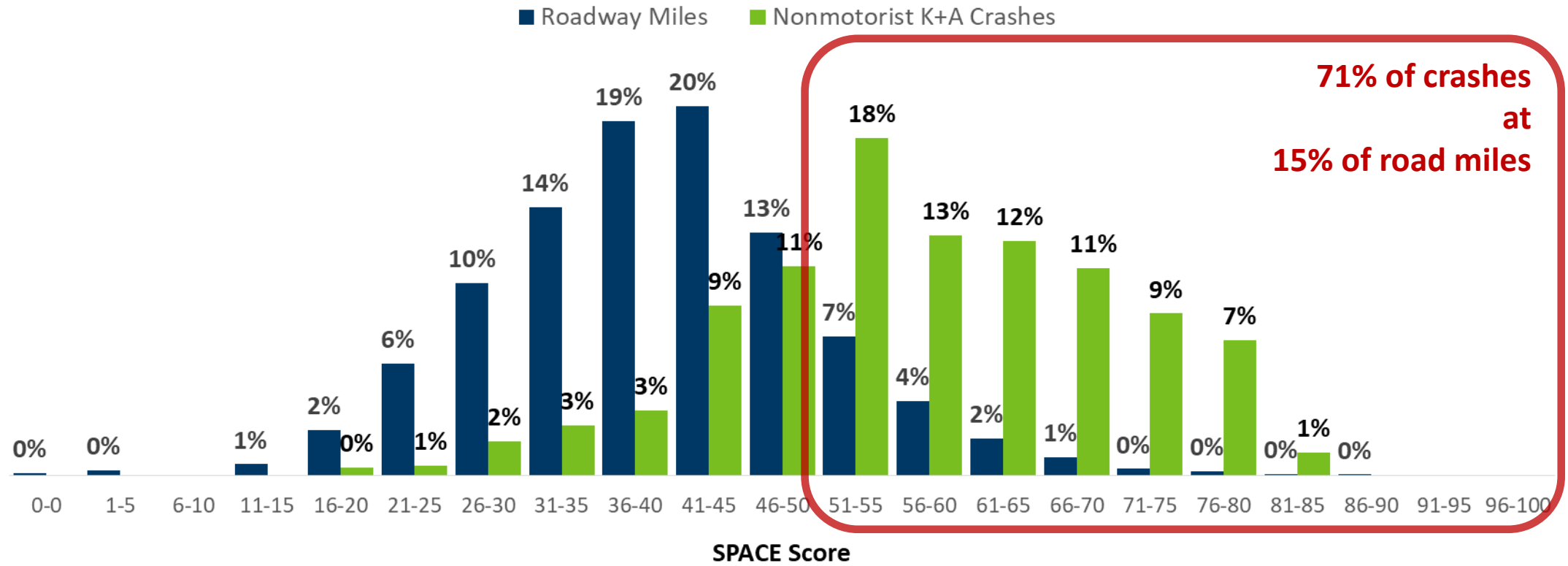


SPACE Score

= 63/100

SPACE Score as a Risk Factor

SPACE Score to Non-motorist Crashes, 2015-2019





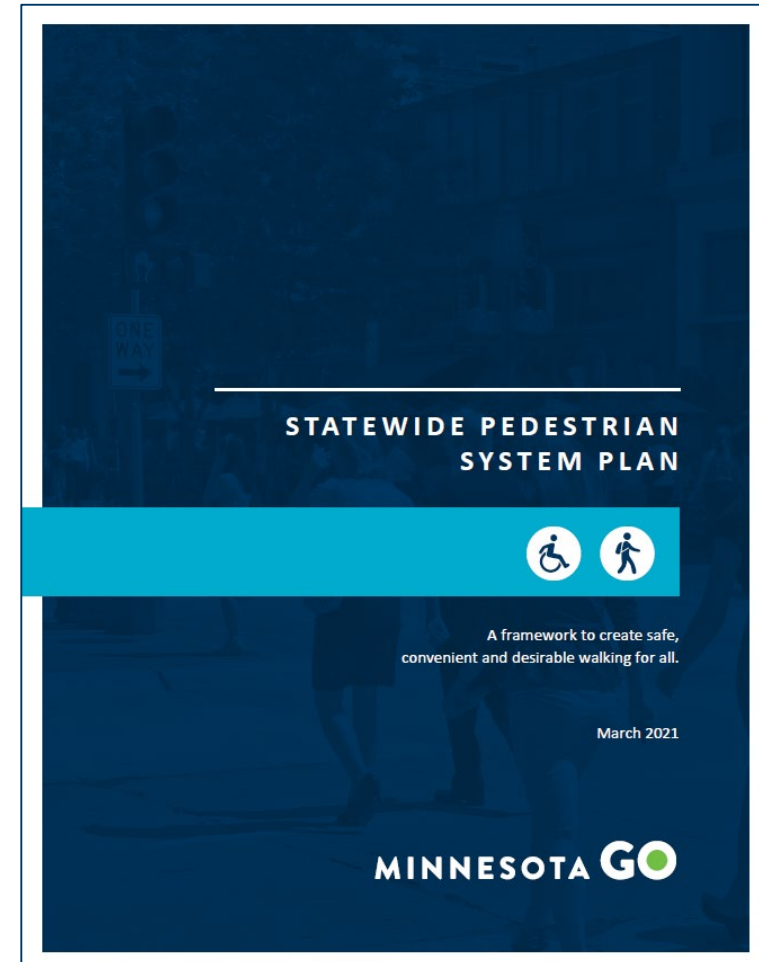
Summary

- Data Storytelling:
 - Identity the priorities FIRST, then let the data take you away
- Overlapping Methodologies
 - District Bicycle Plans, Statewide Pedestrian Plan, Safe Routes to School
- In Development
 - Metro District (Twin Cities Area) specific “SPACE Score”
 - Systemic Safety Funding



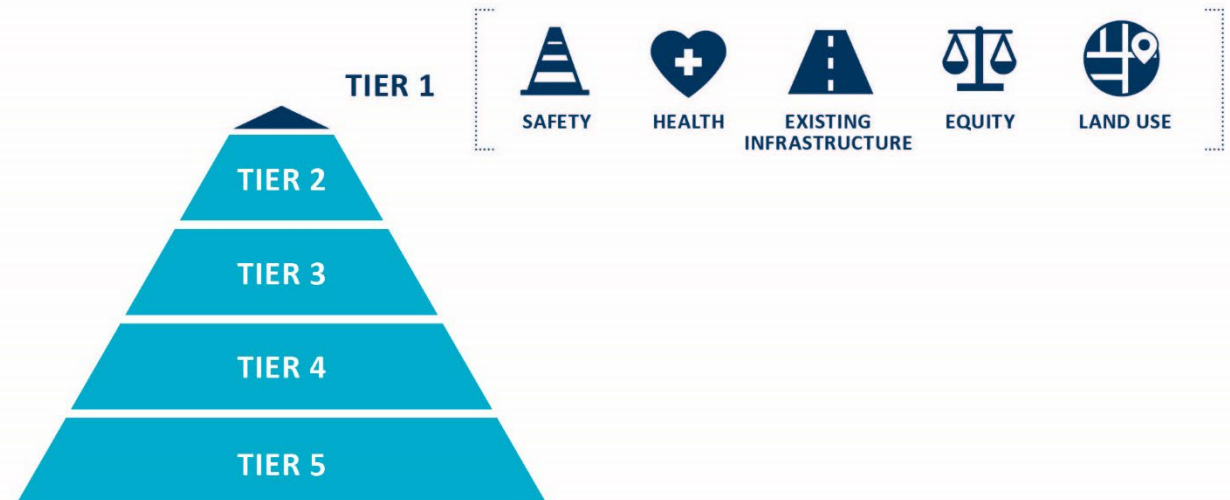
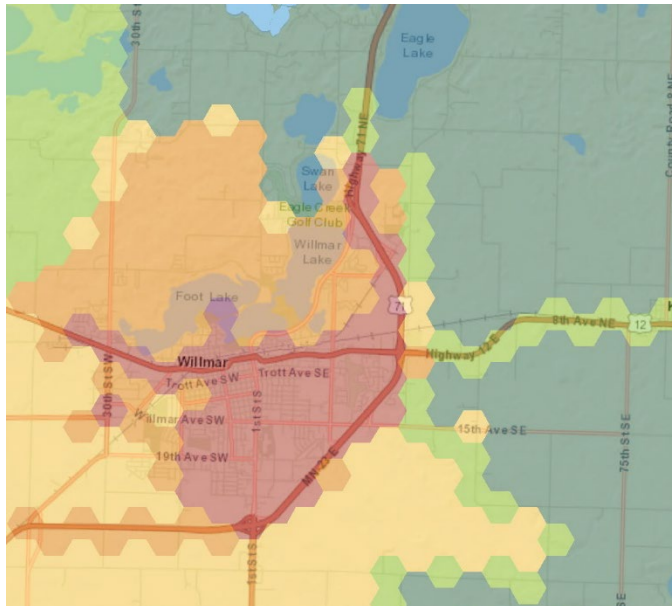
Statewide Pedestrian System Plan

- MnDOT's Statewide Pedestrian System Plan establishes project development and investment planning approaches to improve walking on the MnDOT system.
- PAWS (Priority Areas for Walking Study) helps MnDOT to better understand what parts of the state system are more likely to have higher numbers of people walking.



Priority Areas for Investment

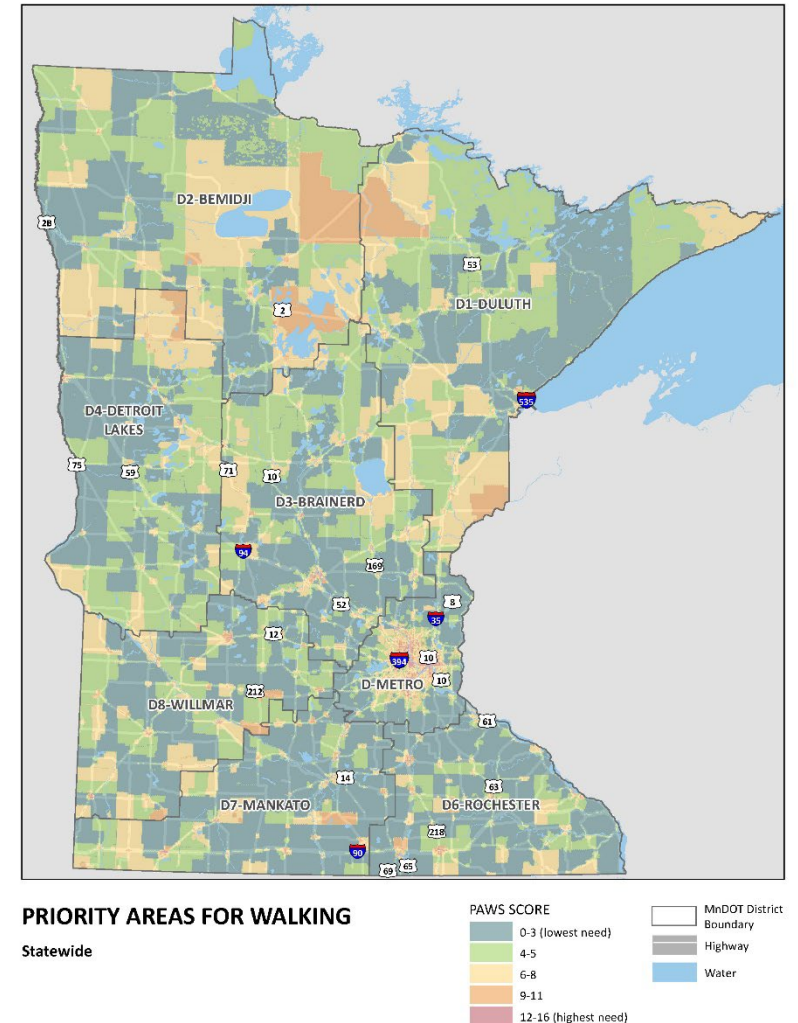
- The Priority Areas for Walking Study (PAWS) supports MnDOT decision making by highlighting areas that are important for walking
- State divided into half-mile hexagons scored on 19 factors related to safety, health, existing infrastructure, equity, and land use



What's unique about PAWS?

- Focused on walking, instead of active transportation as a whole.
- Includes proxy measures for land use and high-priority destinations (shopping, employment, medical services, etc.)
- Interactive map available online:

<https://tinyurl.com/MnDOTPAWS>



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