Central Entrance
Steering Committee Meeting Summary

Friday September 17, 2021 | 10:00 AM–Noon

Invitees

Ron Chicka, MIC
Mike Wenholz, MIC
Rondi Watson, MIC*
Bryan Anderson, MnDOT
Michael Kalnbach, MnDOT*
Doug Kerfeld, MnDOT
Jim Miles, MnDOT*
Adam Fulton, City of Duluth*
Steven Robertson, City of Duluth
Cari Pederson, City of Duluth
Chris Belden, Duluth Transit Authority
Vic Lund, St. Louis County
Brad Hamilton, WSB
Eric Zweber, WSB
Austin Hauf, WSB
Samantha Lorenz, Terra Soma
Jim Meyer, AECOM
Angela Christo, AECOM

*Did not attend

Summary

- Welcome and introductions (Austin)

- Traffic modeling initial results (AECOM)

Key Takeaways:
  - Traffic model shows modest growth to year 2045. Consistent with recent traffic counts.
  - Anticipate some trips will shift away from the corridor under 3-lane scenario (7,000-8,000). Model is likely overestimating diverted trips
  - Peak hour intersection LOS could be feasible for a 3-lane scenario
    - Arlington PM peak hour LOS appears to be biggest concern
    - It will take vehicles more time to travel through the corridor
    - What is an acceptable tradeoff? (increased travel time vs. better facilities for other corridor users)
  - Future design considerations for a 3-lane scenario
    - Right-turn lanes will likely be needed at certain intersections
    - Feasibility of roundabouts (potential impact on bus operations, bikes, and pedestrians)
  - No LOS concerns anticipated for one-way pair scenario

Questions & Discussion
  - What about looking at volume to capacity ratios?
    - Those numbers will be run and will look at VC ratio.
  - Travel time data is for length of the corridor (see slides).
  - From a transit perspective, three lane section is a concern for bus operations – would likely to require bus pull-offs. These volumes would be difficult to accommodate that – safety issue. Prefer in-lane stop in this scenario.
  - Can goals and needs of transit help inform further analysis and findings? How can we start to analyze potential mode shifts?

- Three-lane scenario: Access management would have to be addressed in commercial section between Arlington and Pecan. Currently, outside lane functions as turn lane. Needs to be a serious discussion for access management in dense commercial area.
- Need to analyze using Highway Safety Manual – analysis needs to be performed from safety lens.
- Zones 2, 3 and 4 have limited space for other options. Keep this in mind. Also, turn lanes would probably not be required in Zone 2.

- Land use concept updates and discussion (Eric)

Key Takeaways
- Residential scenario developed - see slides for scenario details.
- Commercial development estimates in progress.

Questions & Discussion
- Does this area include old Central HS?
  - Was not included in the model presented.
- Appreciate broad picture of land use as a component for a transportation plan.
- This analysis goes hand in hand with BRT and transit planning, would also potentially help for grant applications or other planning efforts in the future.
- Keep in mind, one or two dense projects can really alter this analysis.
- This scenario is not unrealistic because of the options on this corridor.

- Discussion on maintenance strategies and practices (Samantha/All)

  - Questions to consider:
    - Think about how we can create a plan that supports what the city can support and fits into the community and political will.
    - Explore what are the needs -
    - Safety and maintenance concerns with street trees?
    - Can CE be an example and demonstration project for new ideas?
    - What maintenance and clearing standards exist today? How can that inform the plan?
  - What future do we want to create? How do we reverse engineer the pathway to get there?
  - Does CE meet the City's & State's sidewalk and/or bikeway clearing priority route criteria?
    - If yes, what does that mean for how it is managed?
    - If not, should it? What needs to change or happen?
  - Going forward there will be a maintenance agreement between the City and MnDOT – at this point the questions would be who does what? Assume that if more multimodal uses are added on this corridor the priority would most likely go up.
  - May be able to change the model of MnDOT doing street typically and city doing sidewalks following construction due to resource constraints.
  - Currently MnDOT does clear sidewalks on CE.
  - City sidewalk clearing is handled by
  - The door is open for conversation. Where is there room for changes in mindset?
  - As options are narrowed down, agreement and conversation will be more focused based on what will actually be built.
  - Multiple agencies clearing one corridor can be chaotic and ineffective - sequence and coordination of snow clearing is important.
  - Where in the process do the agencies make an agreement?
    - Usually about halfway through the design.

  - Communication between all agencies will be key throughout the process. MnDOT is already initiating this discussion and preparing leadership that this conversation is coming.
  - What are the short-term and long-term tools that can be considered? Could a Business Improvement District be feasible in the future?
  - This group needs to steer the process and will soon decide on goals and specific recommendations.
  - What parameters need to be considered?
  - Question about how the Jackson Street (Saint Paul) porous pavement and stormwater management system worked?
    - Samantha will research and get back on this.
  - Access management is important for maintenance and pedestrian use as well. Lots of curb cuts impact this.
  - MnDOT: the project will likely require some sort of stormwater management (ponds or other BMPs) that would also be addressed in maintenance agreement.

- Virtual open house website updates (Brad/Austin)
  - New website survey on feature and concept preferences – what do you want MnDOT to know?
  - Link: https://centralentrance-wsbeng.hub.arcgis.com/pages/community-input
  - Please forward feedback survey to others.
  - Week of 9/20, we will be sending a specific survey to businesses on Central Entrance and businesses that utilize Central Entrance.

- Next steps (Austin)
  - Complete traffic modeling
  - Feedback on concepts via project website
  - Revisit items discussed today
  - Begin discussing revisions to concepts
  - Develop guiding values

ATTACHMENTS
- 9/17/21 Steering Committee Slides

Central Entrance Transportation Plan

Steering Committee Meeting

September 17, 2021

Agenda

- Welcome and introductions
- Traffic modeling initial results
- Land use concept updates and discussion
- Discussion on maintenance strategies and practices
- Virtual open house website updates
- Next steps

Traffic Modeling and Level of Service

Overview of Model Scenarios

Regional Travel Model

- 2018 Base Year
- 2045 No-Build (E+C Network)
- 2045 Build (3-Lane Central Entrance)

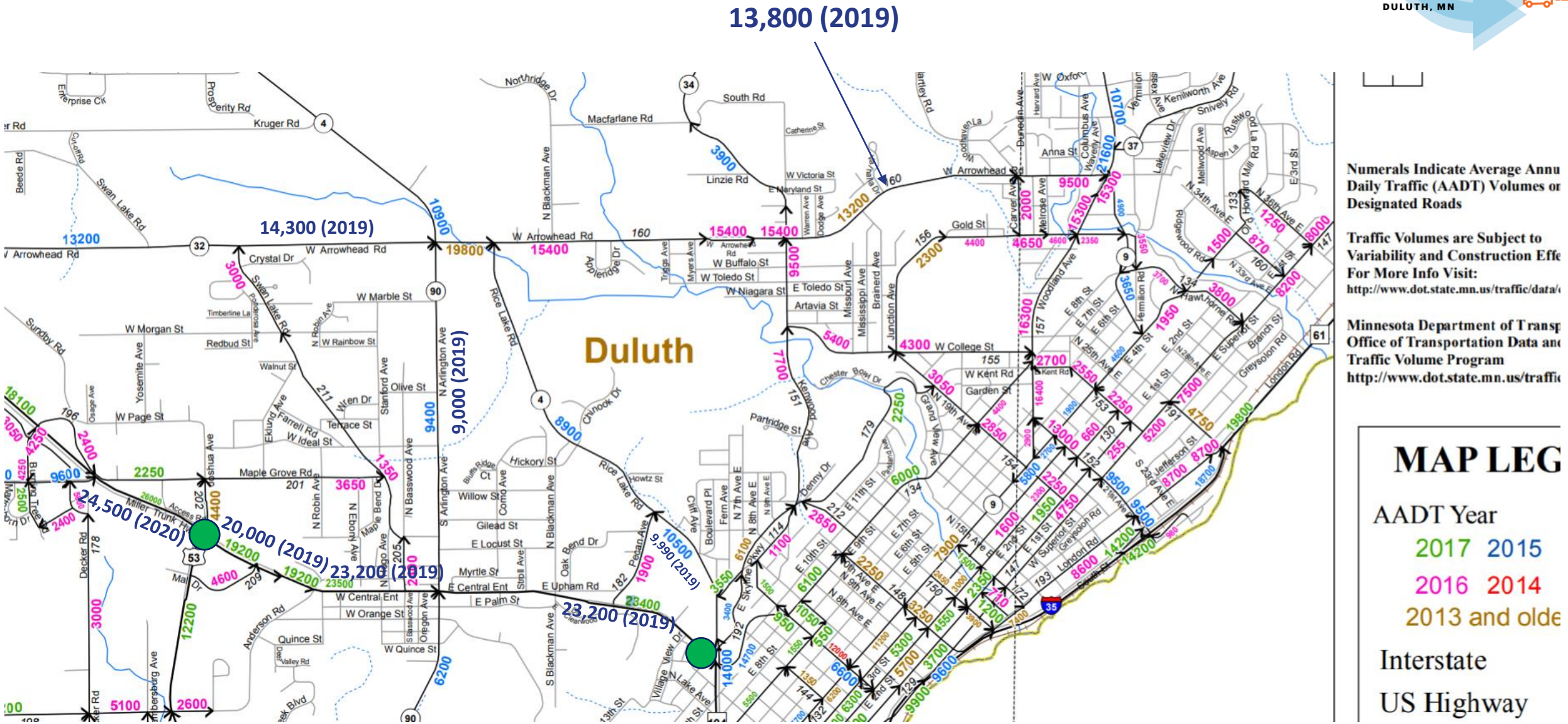
NOTE: output from model used to develop growth factors that were applied to the existing intersection turning movements.

Overview of Level of Service

Synchro Analysis (AM and PM Peak Hour)

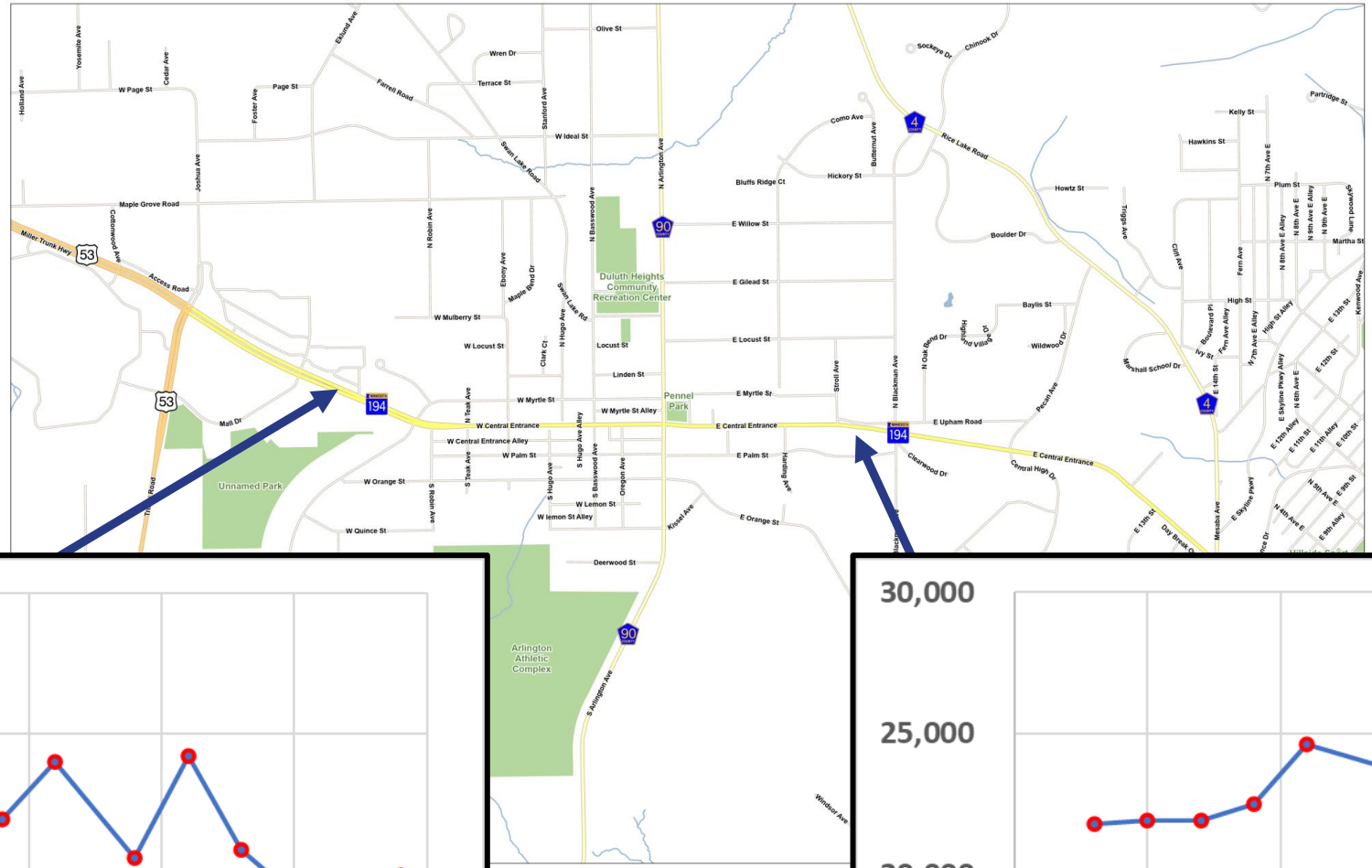
- 2018 Base Year
- 2045 No-Build (E+C Network)
- 2045 Build (3-Lane Central Entrance)
  - Accounts for trips that shift to other roadways
- 2045 Build (3-Lane Central Entrance – Sensitivity Analysis)
  - Assumes no trips shift to other roadways

Historical Average Annual Daily Traffic (AADT)



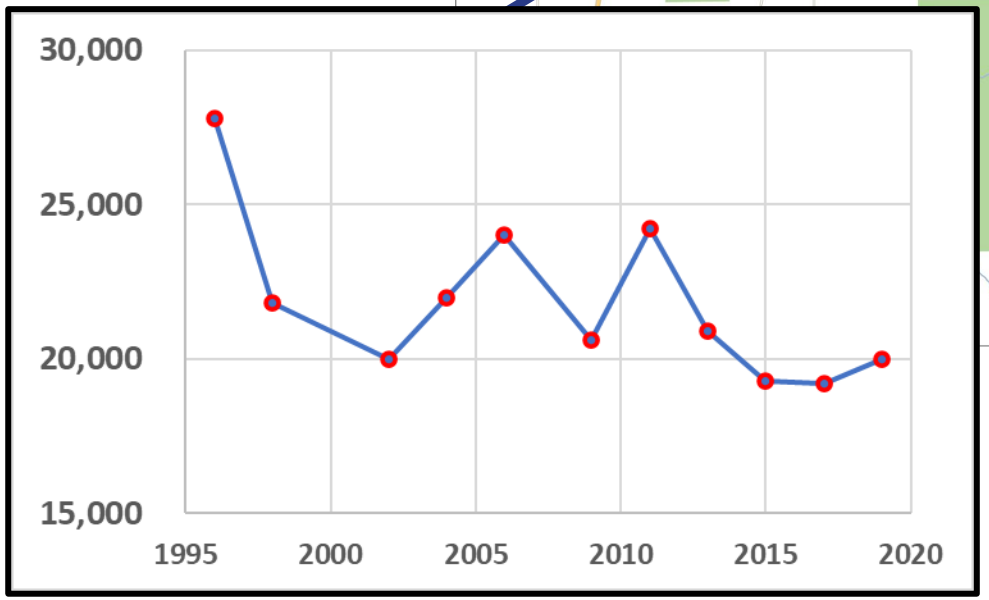
Historical Average Annual Daily Traffic (AADT)

central entrance
DULUTH, MN

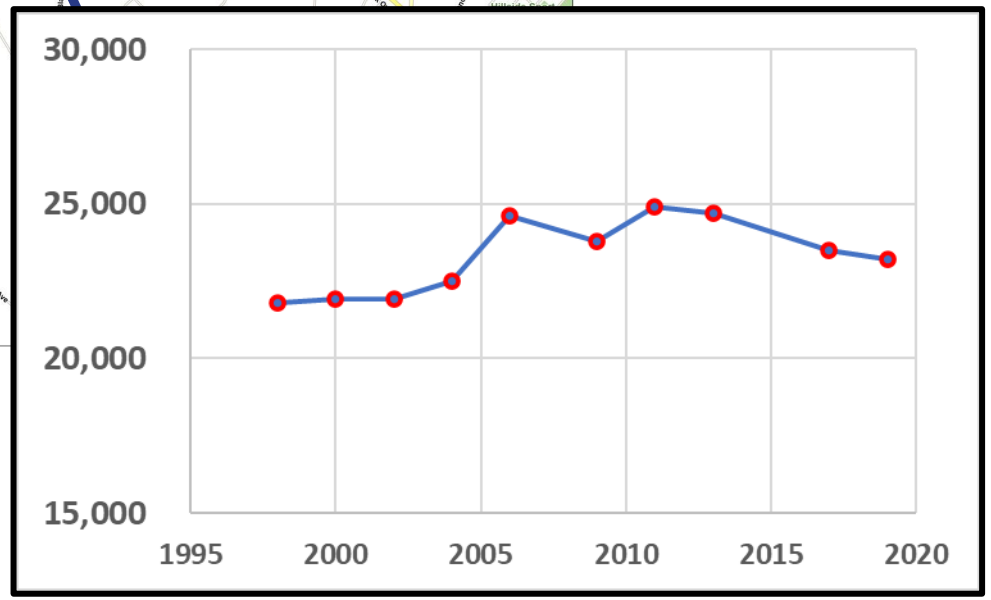


Central Entrance

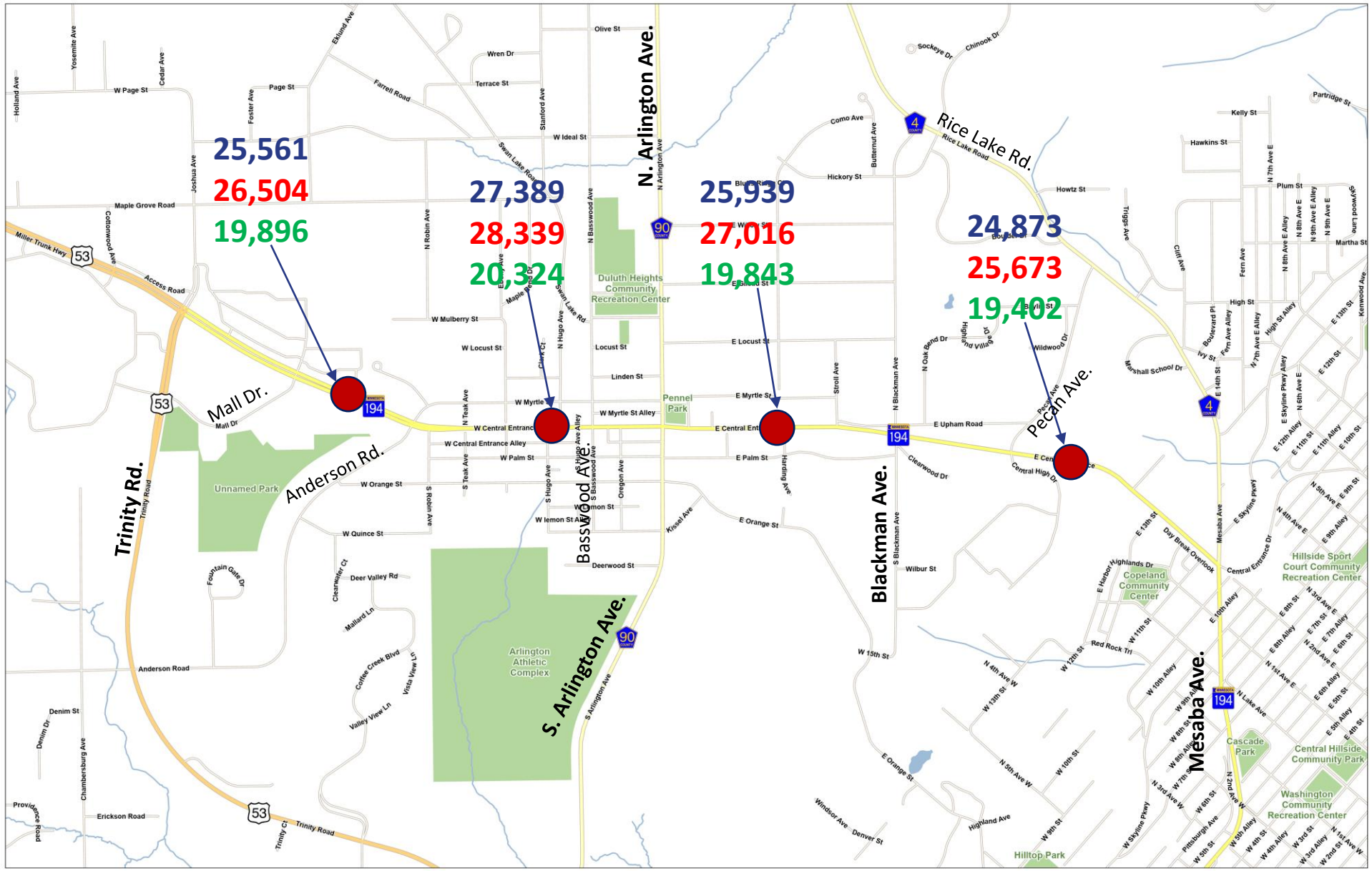
West of Anderson



East of Anderson



Average Weekday Traffic Volumes (from model)



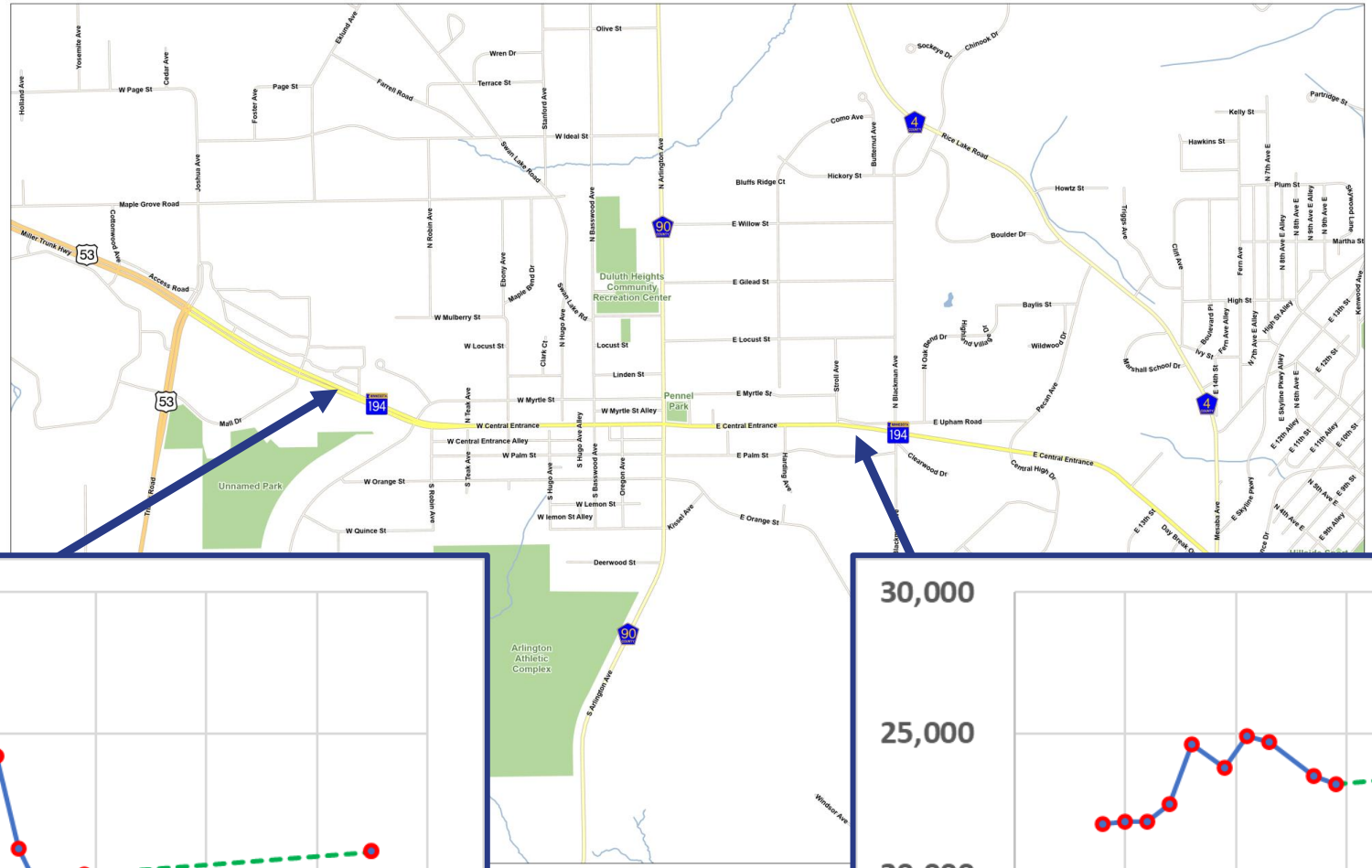
Legend

2018 Baseline
2045 No-Build (E+C)
2045 Build (3-lane)

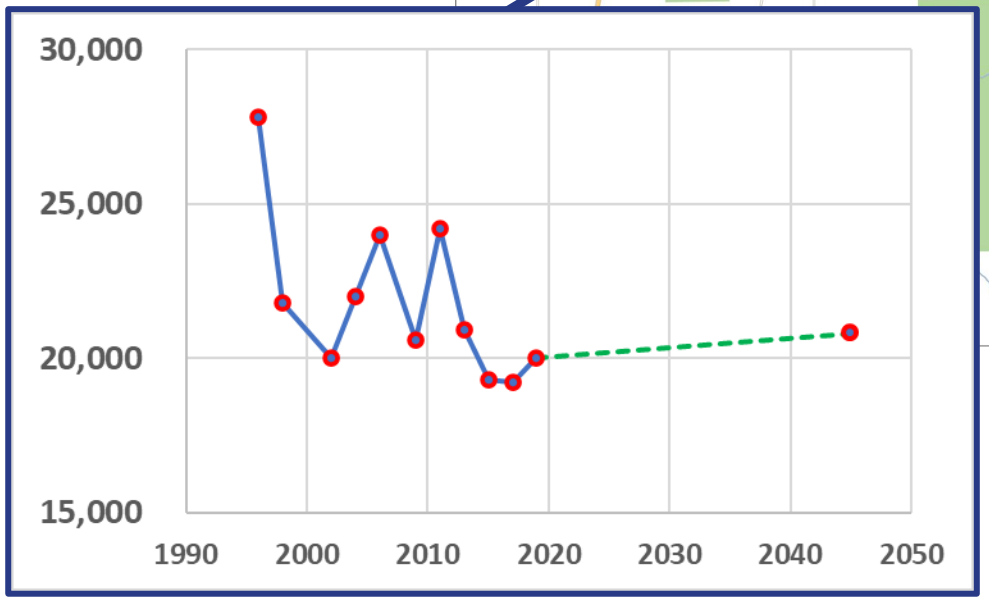
2045 Project Daily Traffic (No-Build)

central entrance
DULUTH, MN

Central Entrance



West of Anderson



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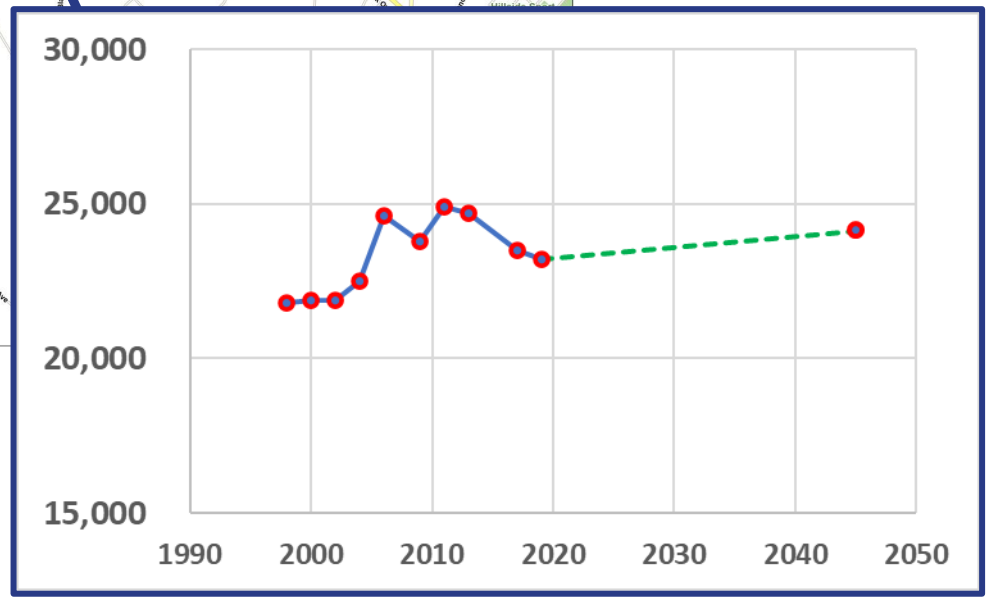
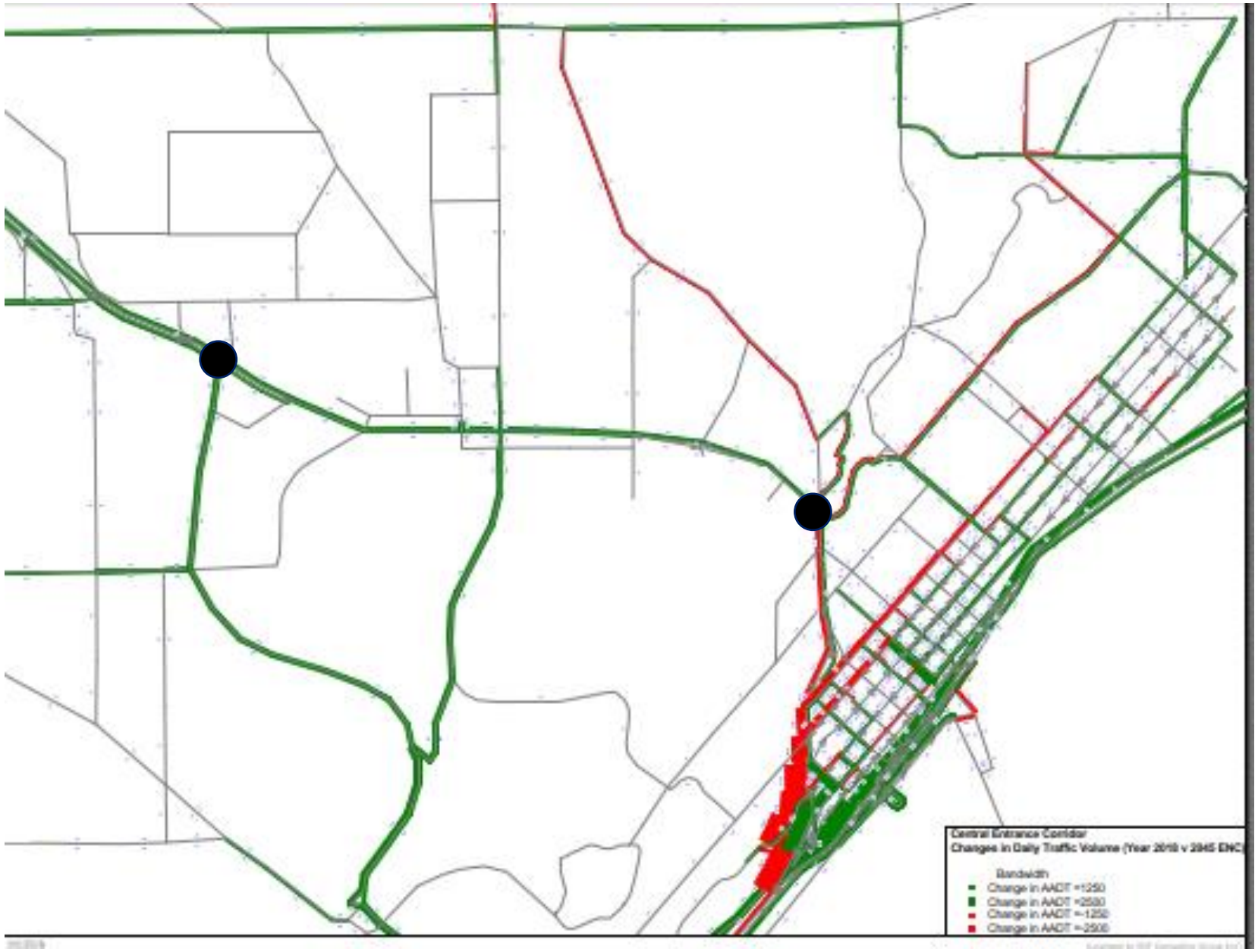


Volume Change (2018 to 2045 No-Build)



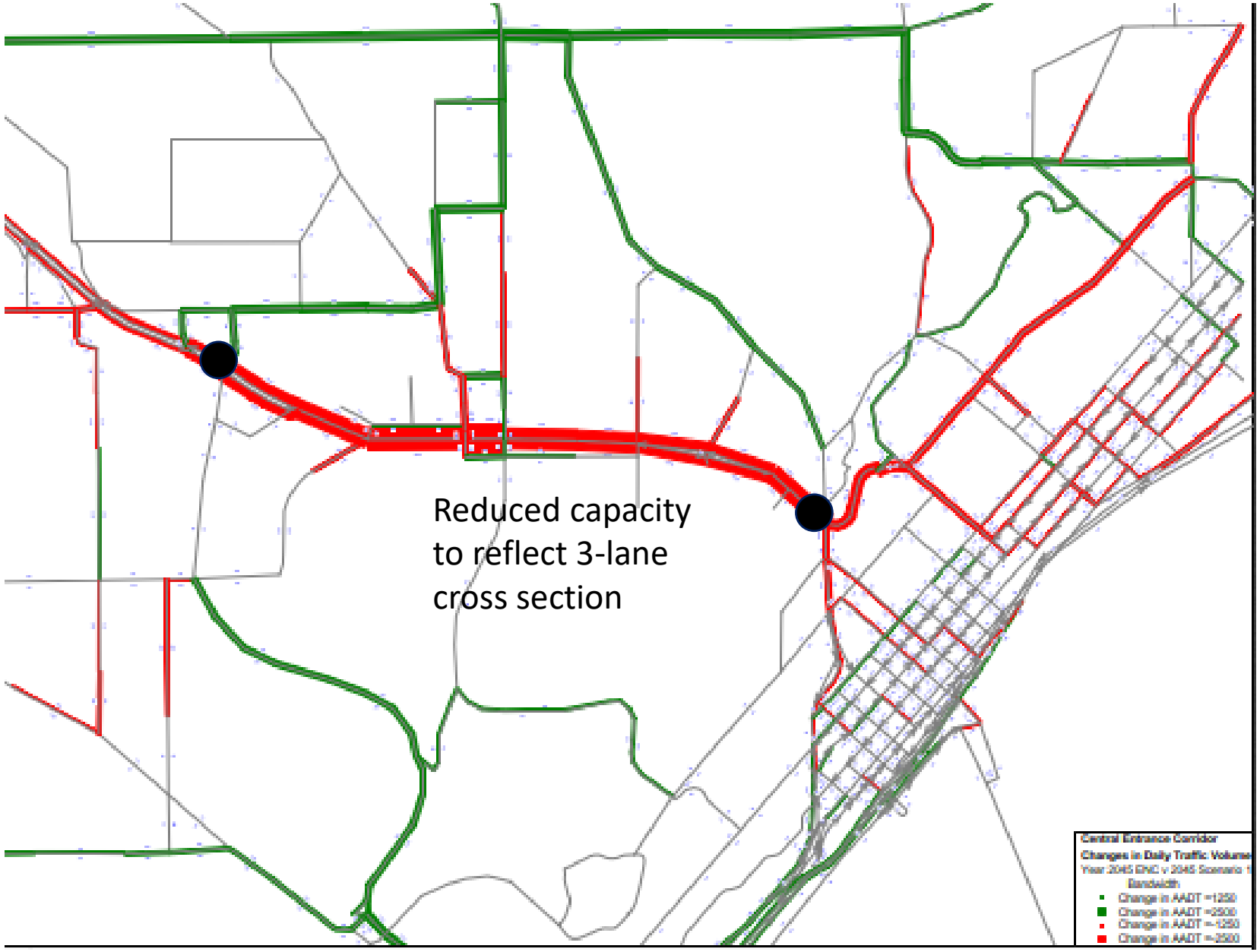
Legend

Green indicates increase in volume

Red indicates a decrease in volume

3% to 4% increase in traffic along the corridor

Volume Change (2045 No-Build to 2045 Build)



Legend

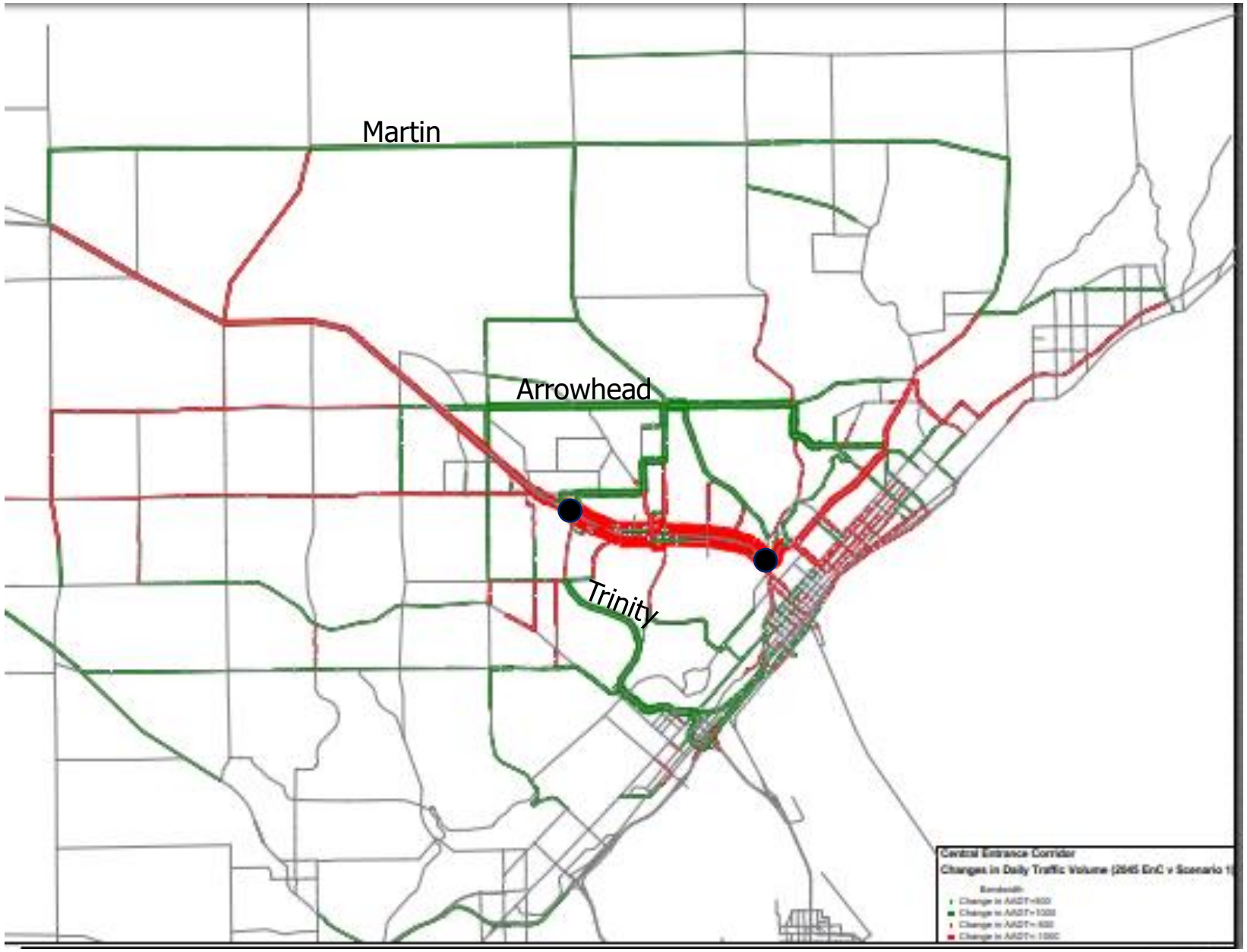
Green indicates increase in volume

Red indicates a decrease in volume

24% to 28% decrease in traffic along the corridor

Volume Change (2045 No-Build to 2045 Build)

Regional View

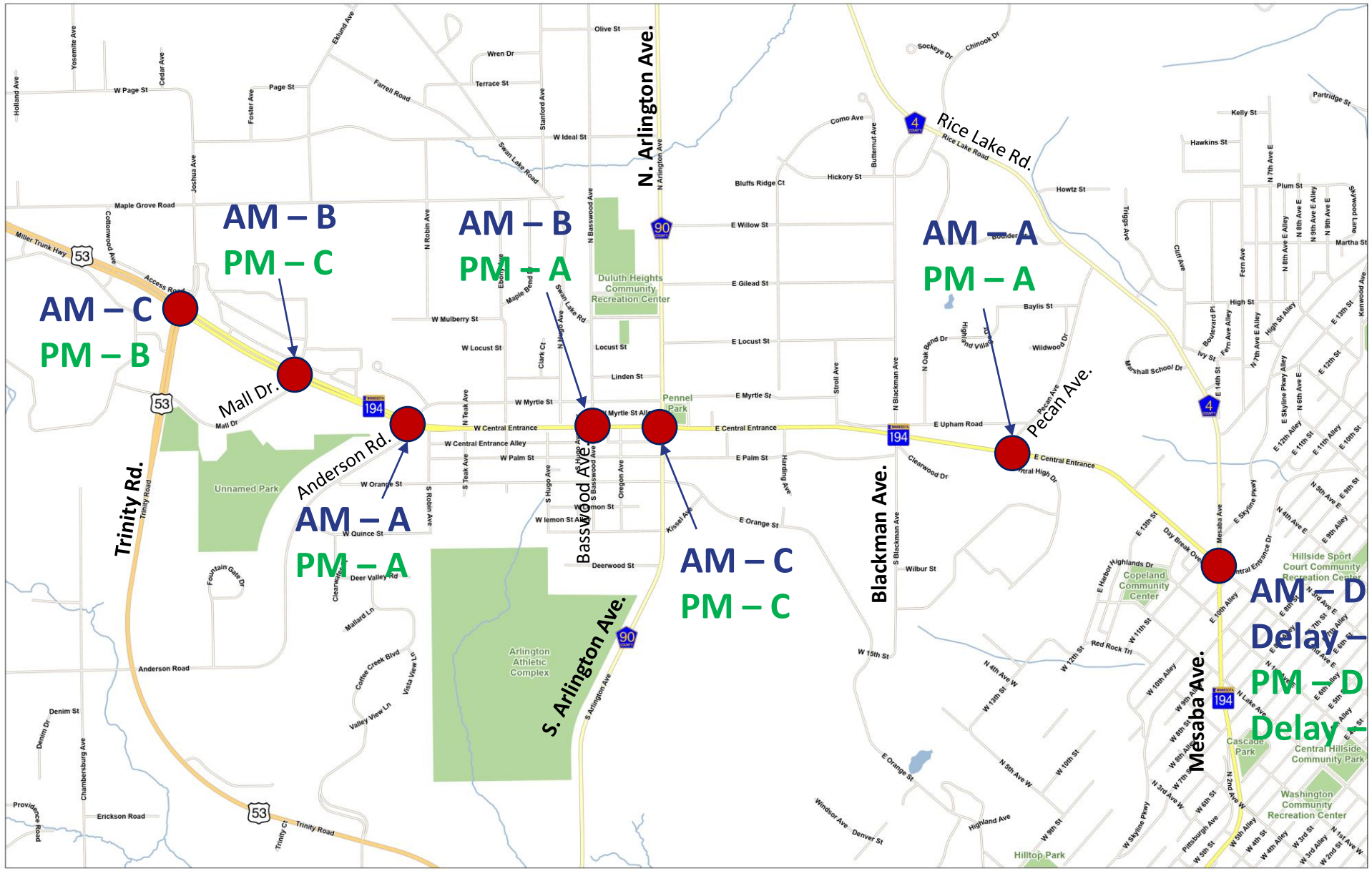


Legend

Green indicates increase in volume

Red indicates a decrease in volume

Overall Intersection Level of Service (2018)



Intersection Level of Service (2018)

Central Entrance @ Trinity Rd												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D	D	A	D	B	A	E	E	A	D	A	A
PM Peak	E	D	A	E	A	A	E	E	A	D	A	A

Central Entrance @ Mall Dr												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D	E	A	C	A	A	D	C		D	A	A
PM Peak	D	E	A	D	B	A	E	D		E	C	A

Central Entrance @ Anderson Rd												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	E		C	A	A		D		B	A	A	A
PM Peak	E		B	A	A		E		C	A	A	A

Central Entrance @ Basswood Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D		A	A	A		E		A	A	A	
PM Peak	D		A	A	A		E		B	A	A	

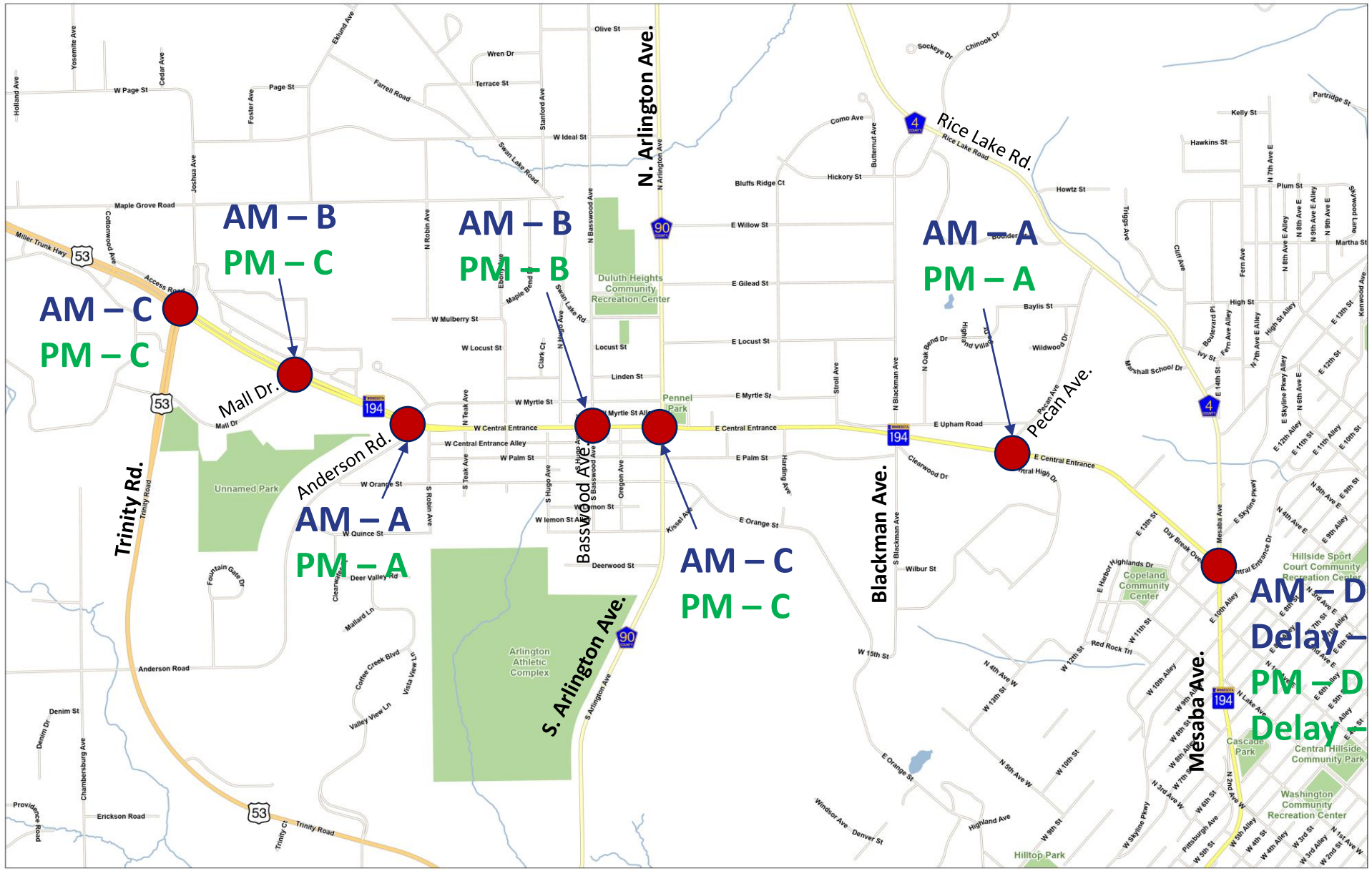
Central Entrance @ Arlington Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	C	E		B	C		C	D	A	A	B	
PM Peak	E	D		B	B		D	E	B	C	A	

Central Entrance @ Pecan Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D		A	C	A	A	E		B	F	A	A
PM Peak	D		A	F	A	A	E		B	D	A	A

Central Entrance @ Mesaba Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D	D	A	D	D		D	D	A	C	D	B
PM Peak	D	D	A	C	D		D	E	A	F	E	C

Preliminary Results

Overall Intersection Level of Service (2045 No-Build)



Preliminary Results

Intersection Level of Service (2045 No-Build)

Central Entrance @ Trinity Rd												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D	D	A	D	B	A	E	E	A	D	A	A
PM Peak	E	D	A	E	A	A	E	E	A	D	A	A

Central Entrance @ Mall Dr												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D	E	A	D	B	A	D	C		D	A	A
PM Peak	D	E	A	E	C	A	E	D		E	C	A

Central Entrance @ Anderson Rd												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D		B	A	A		D		B	A	A	A
PM Peak	D		B	A	A		D		B	A	A	A

Central Entrance @ Basswood Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	C		A	A	A		D		A	A	B	
PM Peak	D		A	A	A		D		A	A	A	

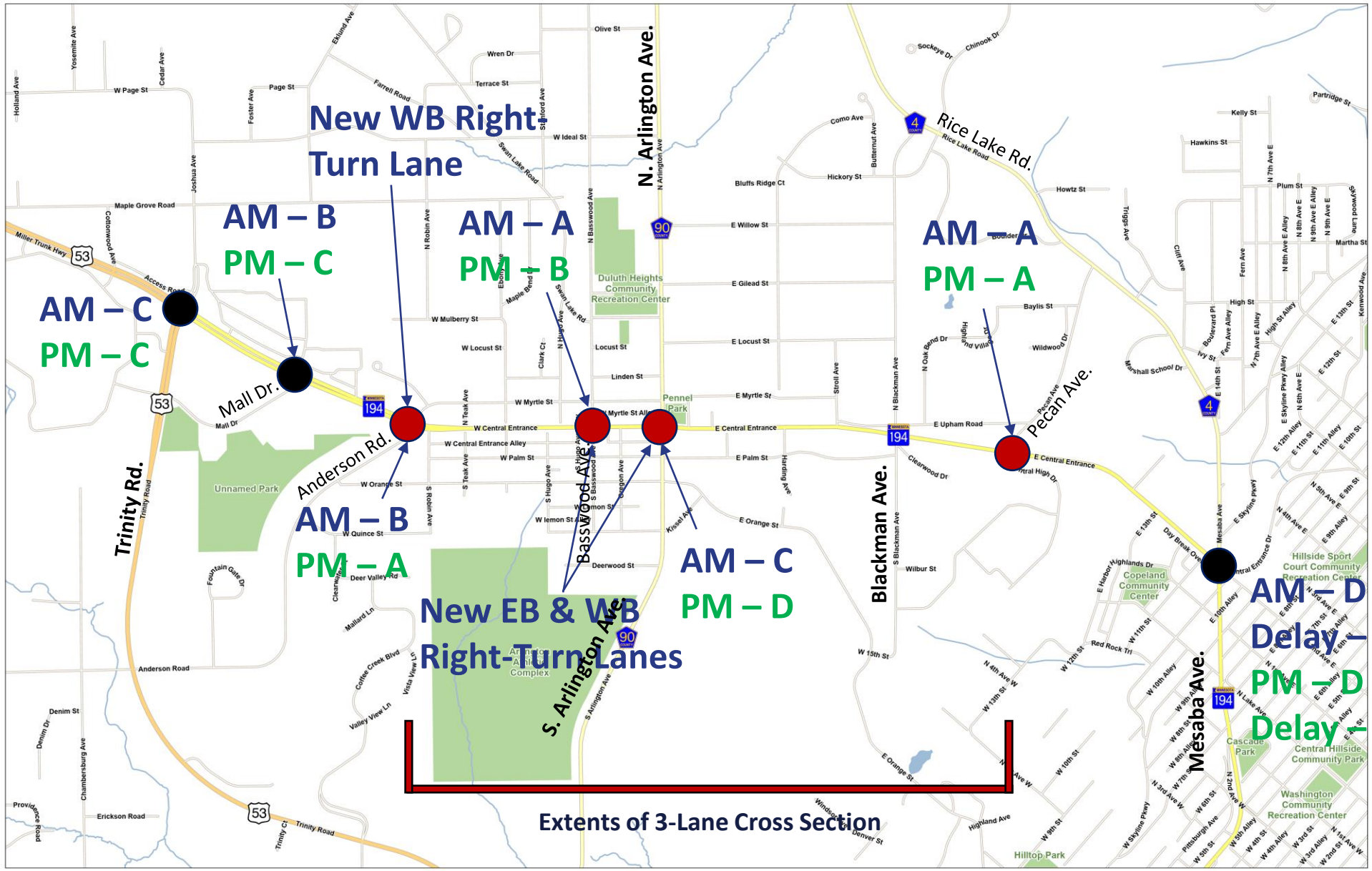
Central Entrance @ Arlington Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	B	D		C	C		C	C	A	B	C	
PM Peak	D	D		A	C		C	D	A	D	C	

Central Entrance @ Pecan Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	C		A	D	A	A	D		A	D	A	A
PM Peak	D		A	D	A	A	D		A	D	A	A

Central Entrance @ Mesaba Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D	D	A	D	D		D	D	A	D	D	A
PM Peak	D	D	A	C	D		D	E	A	E	D	A

Preliminary Results

Overall Intersection Level of Service (2045 Build)



Legend

AM Peak Hour

PM Peak Hour

Preliminary Results

Intersection Level of Service (2045 Build)

Central Entrance @ Trinity Rd												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D	D	A	D	B	A	D	D	A	D	B	A
PM Peak	D	D	A	D	C	A	D	D	A	D	C	A

Central Entrance @ Mall Dr												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	C	D	A	D	A	A	D	B		D	A	A
PM Peak	C	D	A	D	C	A	D	B		D	C	A

Central Entrance @ Anderson Rd												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D		B	A	A	A	D		B	A	A	A
PM Peak	D		B	A	A	A	D		B	A	A	A

Central Entrance @ Basswood Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D		A	A	A	A	D		A	A	A	A
PM Peak	D		A	A	A	A	D		A	A	B	A

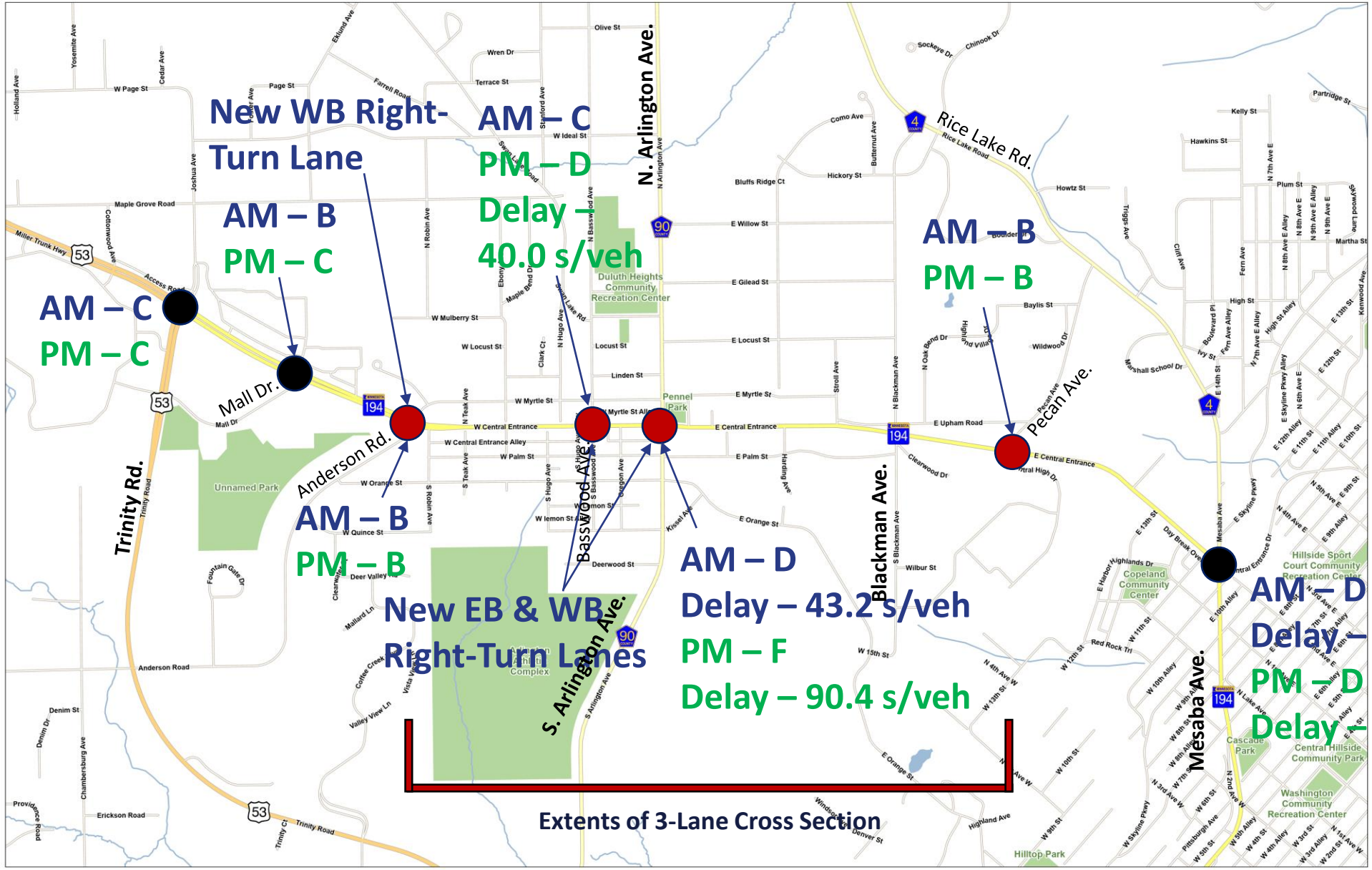
Central Entrance @ Arlington Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	B	D		B	C	A	C	C	A	B	C	A
PM Peak	D	D		B	D	A	C	D	A	C	C	A

Central Entrance @ Pecan Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	C		A	D	A	A	D		A	D	A	A
PM Peak	C		A	D	A	A	D		A	D	A	A

Central Entrance @ Mesaba Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D	D	A	C	D		D	D	A	C	D	A
PM Peak	D	D	A	C	D		D	E	A	D	D	A

Preliminary Results

2045 Build – Sensitivity Analysis
Overall Intersection Level of Service



Legend

AM Peak Hour
PM Peak Hour

Sensitivity Analysis – 2045 No-Build traffic volumes applied to 2045 Build scenario (3-lane configuration)

Preliminary Results

2045 Build – Sensitivity Analysis
Intersection Level of Service

Central Entrance @ Trinity Rd												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	D	D	A	D	B	A	D	D	A	D	B	A
PM Peak	D	D	A	D	D	A	D	D	A	D	C	A

Central Entrance @ Mall Dr												
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AM Peak	C	D	A	D	A	A	D	B		D	B	A
PM Peak	C	C	A	D	C	A	D	C		E	D	A

Central Entrance @ Anderson Rd												
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AM Peak	D		B	B	B	A	D		B	A	A	A
PM Peak	D		B	A	B	A	D		B	A	A	A

Central Entrance @ Basswood Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	C		A	A	B	A	D		A	A	C	A
PM Peak	D		A	A	E	A	D		A	A	C	A

Central Entrance @ Arlington Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	C	E		D	C	A	C	D	A	B	D	A
PM Peak	D	D		C	F	A	C	D	A	D	D	A

Central Entrance @ Pecan Ave												
Movement	NBL	NBT	NBR	WBL	WBT	WBR	SBL	SBT	SBR	EBL	EBT	EBR
AM Peak	C		A	D	A	A	D		A	D	B	A
PM Peak	C		A	D	A	A	D		A	D	A	A

Central Entrance @ Mesaba Ave												
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AM Peak	D	D	A	D	D		D	D	A	D	D	A
PM Peak	D	D	A	C	D		D	E	A	E	D	A

Sensitivity Analysis – 2045 No-Build traffic volumes applied to 2045 Build scenario (3-lane configuration)

Preliminary Results

SimTraffic Travel Time Results (PM Peak Hour)

Scenario	Direction	Travel Time (sec)	Travel Time (min)	Change (in minutes) 2018 Baseline to 2045 No-Build	2045 No-Build to 2045 Build	2045 No-Build to 2045 Build (sensitivity analysis)
2018 Baseline	EB	384.4	6.4			
	WB	443.1	7.4			
2045 No-Build	EB	372.2	6.2	-0.2		
	WB	476	7.9	0.5		
2045 Build (3-lane)	EB	378.4	6.3		0.1	
	WB	488.3	8.1		0.2	
2045 Build (3-lane) – Sensitivity Analysis	EB	418.5	7.0			0.8
	WB	693.6	11.6			3.7

Preliminary Results

Next Steps

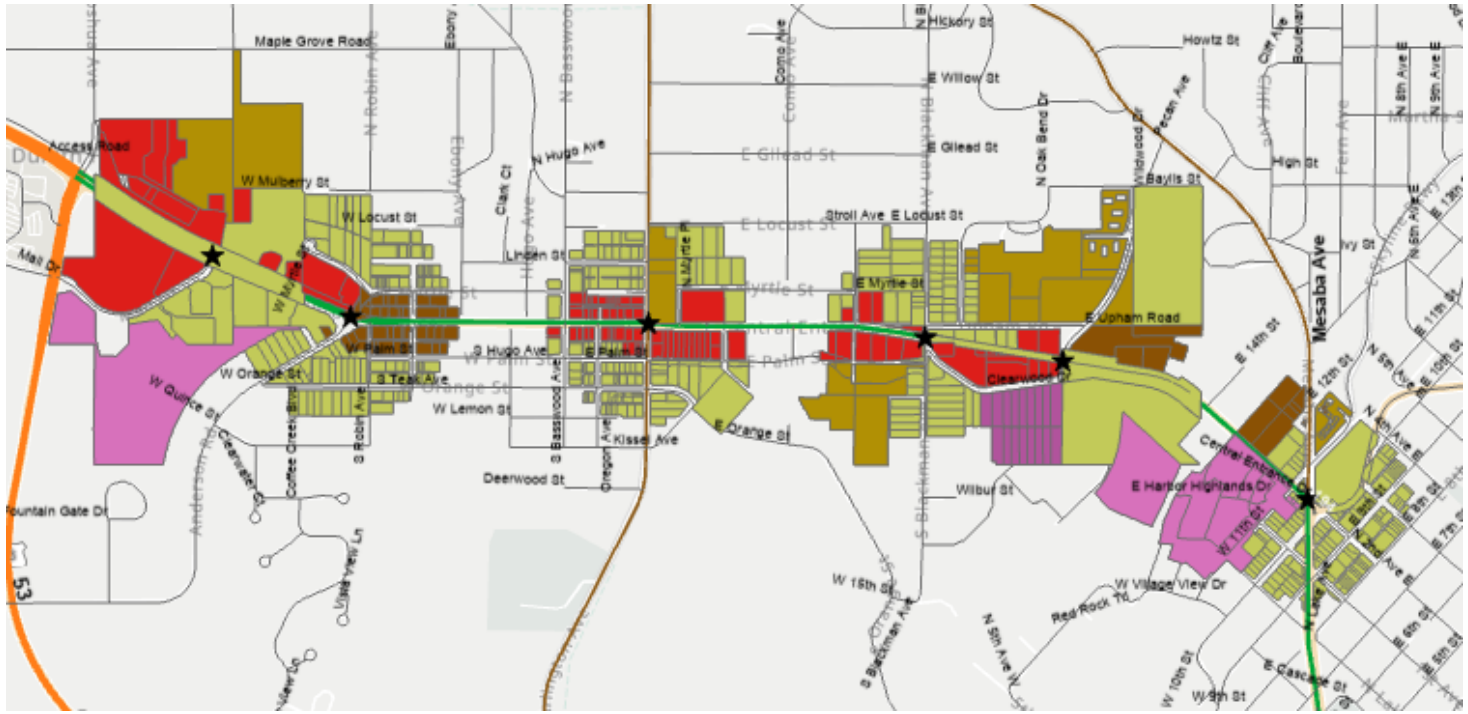
- Conduct LOS analysis for one-way pair
  - Reassign turning-movements to reflect traffic operations on Palm Street
- Conduct Roundabout LOS analysis for:
  - 3-lane Central Entrance
  - One-way pair scenario

Key Takeaways

- Traffic model shows modest growth to year 2045
  - Consistent with recent traffic counts
- Anticipate some trips will shift away from the corridor under 3-lane scenario
  - Model is likely overestimating diverted trips
- Peak hour intersection LOS could be feasible for a 3-lane scenario
  - Arlington PM peak hour LOS appears to be biggest concern
  - It will take vehicles more time to travel through the corridor
  - What is an acceptable tradeoff? (increased travel time vs. better accommodations for other corridor users)
- Future design considerations for a 3-lane scenario
  - Right-turn lanes will likely be needed at certain intersections
  - Feasibility of roundabouts (potential impact on bus operations, bikes, and pedestrians)
- No LOS concerns anticipated for one-way pair scenario

Land Use

6 -¼ Mile Project Nodes



Existing Residential Value
3,586 Total Dwelling Units
Total Value = $271,890,227
Value / Units = $75,820 per unit

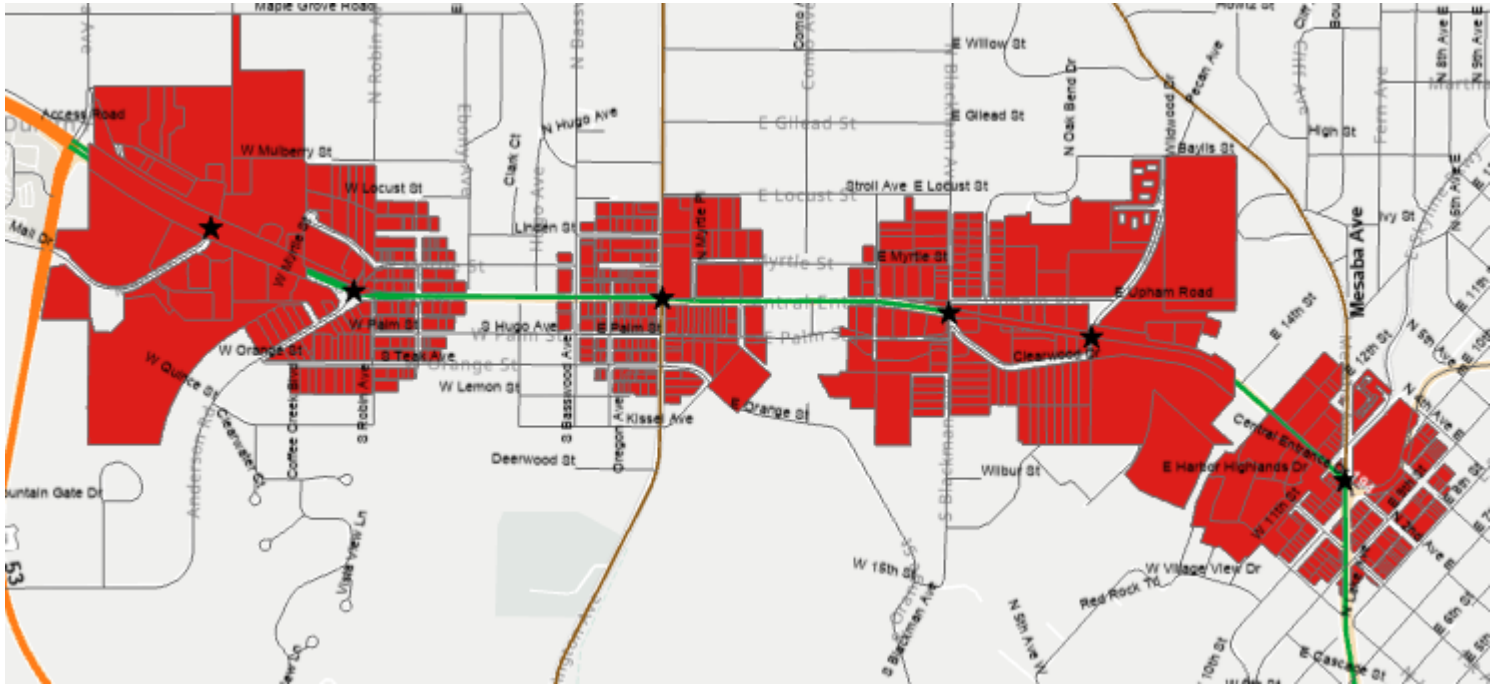
Existing Non-Residential Value
5,655,443 square-feet of space
Total Value = $274,325,564
Value / Space = $48.50 per/sf

Combined Existing Value

~$546 Million

Rezone to MU-C

- Density:
  - **MU-C – 87 units/acre**
  - MU-N – 87 units/acre, stricter setbacks than MU-C
  - R-2 – 58 units/acre
- Uses:
  - **MU-C: Allows the most permitted retail/commercial opportunities as well as the largest sf allowed. No single-family homes are permitted.**
  - MU-N: Allows some permitted retail/commercial uses but less than MU-C and at a smaller scale. Allows single-family homes (undesirable).
  - R-2: Virtually no permitted retail/commercial uses. Intended for all residential homes.



Maximum Potential Value

- Existing Residential Value = $75,820 per unit
- Potential Residential Value = $157,000 per unit
- **Potential Number of Units = 180,003**

- Existing Retail Value = $48.50 per/sf
- Potential Retail Value = $108 per/sf
- **Potential Retail Square Footage = 90,125,640 sf**

- Existing Total Value = ~$546 Million
- **Potential Total Value = ~$37.7 Billion**

Housing Permits in Duluth

City of Duluth Housing Indicator Report

Table 20: Residential Housing Permits

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
New permits (residential)	146	151	132	105	87	45	31	55	25	35	41	58	32	43	49	59	72	37
Units of 1 family dwellings	138	121	113	87	70	36	31	36	21	33	39	44	29	42	46	40	57	31
Units of 2 family dwellings	10	30	17	2	26	8	0	34	4	4	4	4	0	0	0	16	15	4
Units of 3 or 4 family dwellings	8	28	16	19	0	0	0	6	0	0	0	16	0	0	0	4	1	
Units of 5 or more family dwellings	6	206	103	494	18	104	0	0	16	106	60	126	381	54	153	154	454	160
Number of Units Created	**162**	**385**	**249**	**602**	**114**	**148**	**31**	**76**	**41**	**143**	**103**	**190**	**410**	**96**	**199**	**214**	**527**	**195**

Averaging ~166 units per year over the last 10 years

Realistic Potential Value

- 20% of ~166 new permits are in Central Entrance
- ~33 Units per year in Central Entrance
- 33 units * 25 years = **825 units created in Central Entrance**
- $157,000/unit * 825 units = **$129.525 Million**

Clearing the Way for a Better Central Entrance

How do we embrace and address all season maintenance to keep people moving, especially people walking, biking and rolling?

Central Entrance Transportation Plan | Steering Committee Meeting

September 17, 2021

Photo: Copenhagen Design Co.

SAFETY FIRST

Central Entrance is a safe, accessible and comfortable street for all people, making walking biking and transit a viable and easy choice.

YEAR-ROUND MULTIMODAL CORRIDOR

Central Entrance is accessible and inviting to all people, all seasons.

TRANSIT READY

Central Entrance improves transit efficiency through BRT.

WALKABLE LAND USE PATTERN

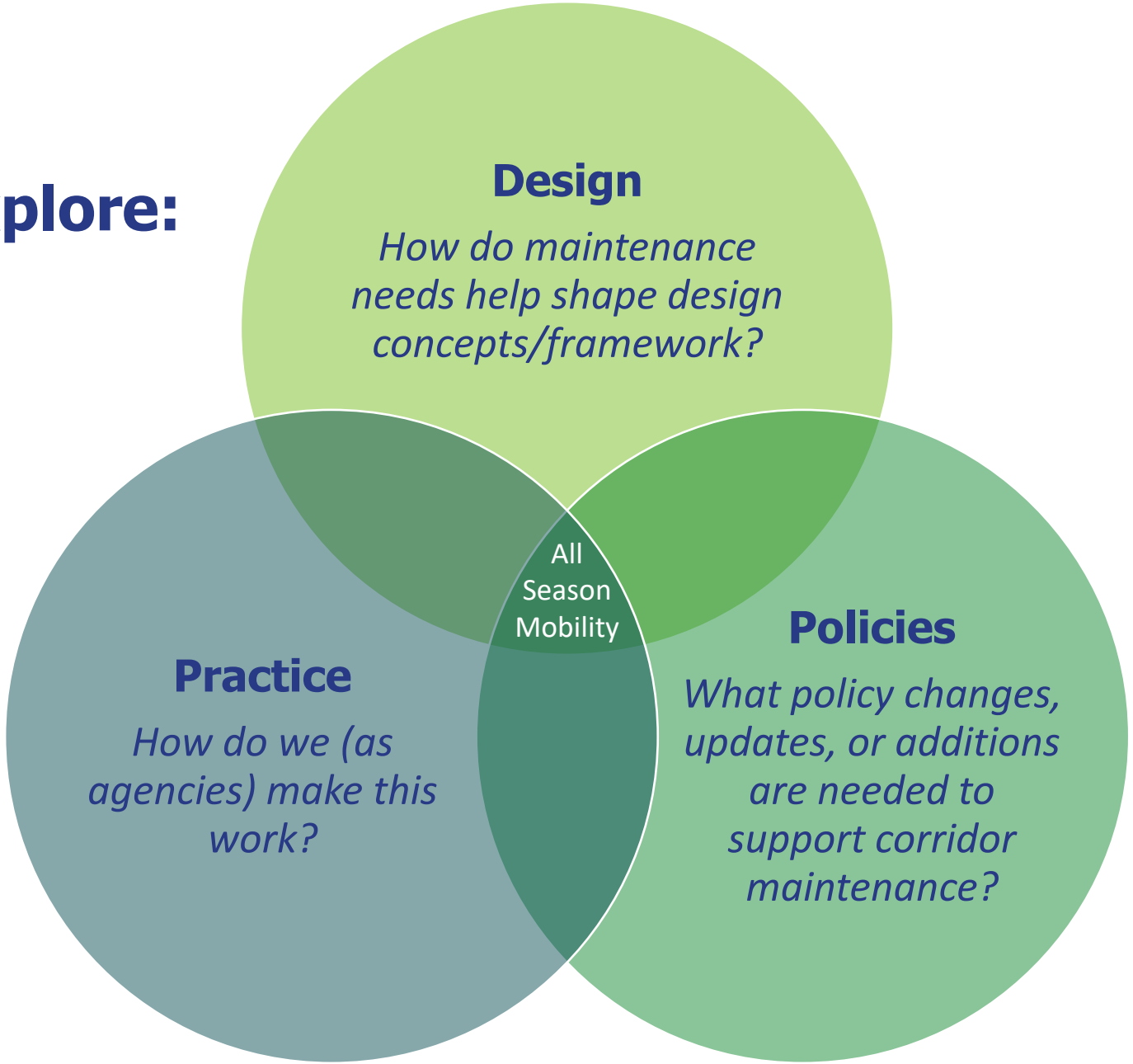
Central Entrance sets the stage for more walkable, connected, and transit-oriented land use patterns.

GREEN BOULEVARD

Central Entrance models green infrastructure treatments to not only help address climate change impacts, but also establish a sense of place .

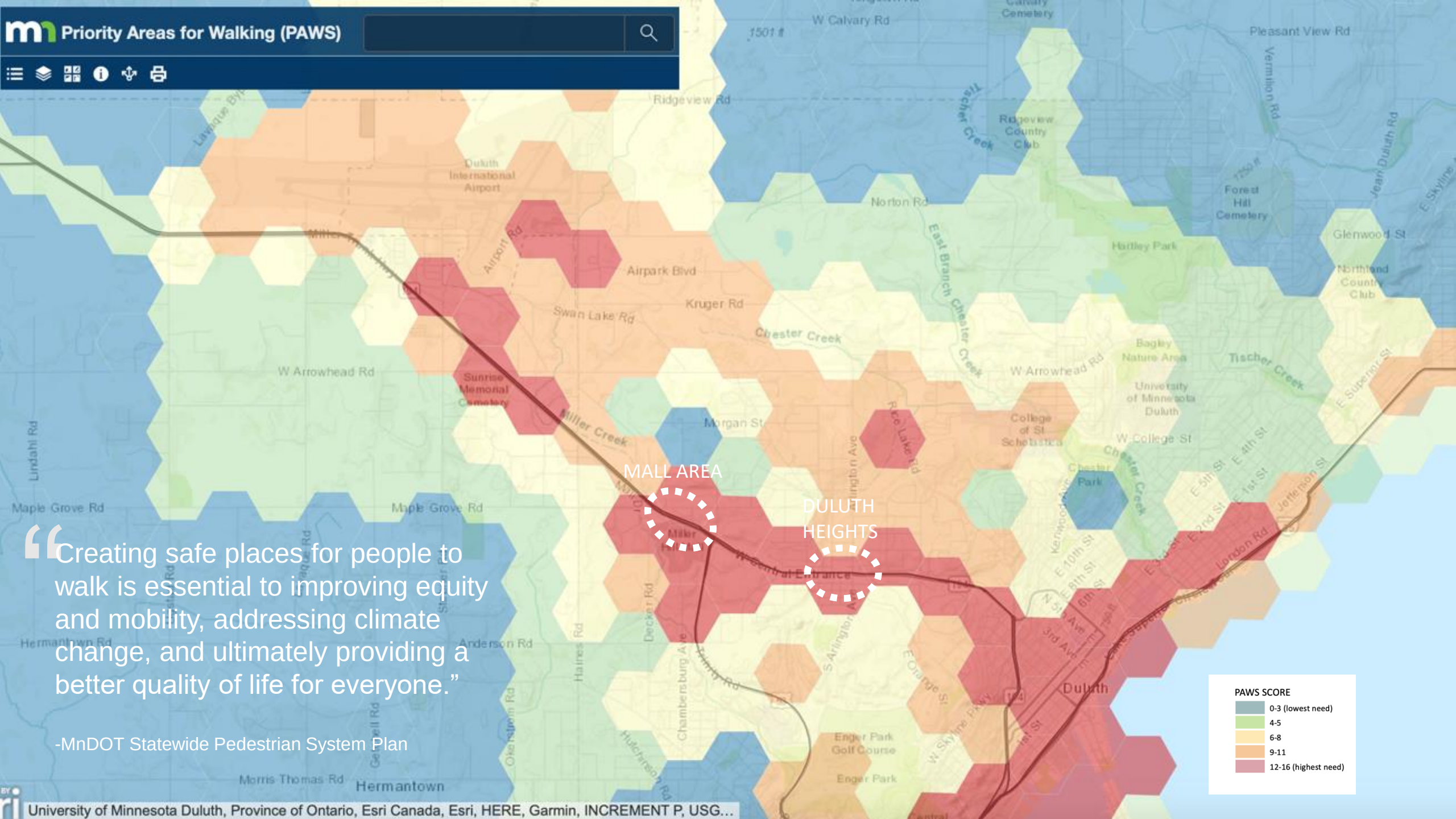
EMERGING VALUES

We Will Explore:



A Quick Look:

What Plans / Policies Support Our Efforts?



"Creating safe places for people to walk is essential to improving equity and mobility, addressing climate change, and ultimately providing a better quality of life for everyone."

-MnDOT Statewide Pedestrian System Plan

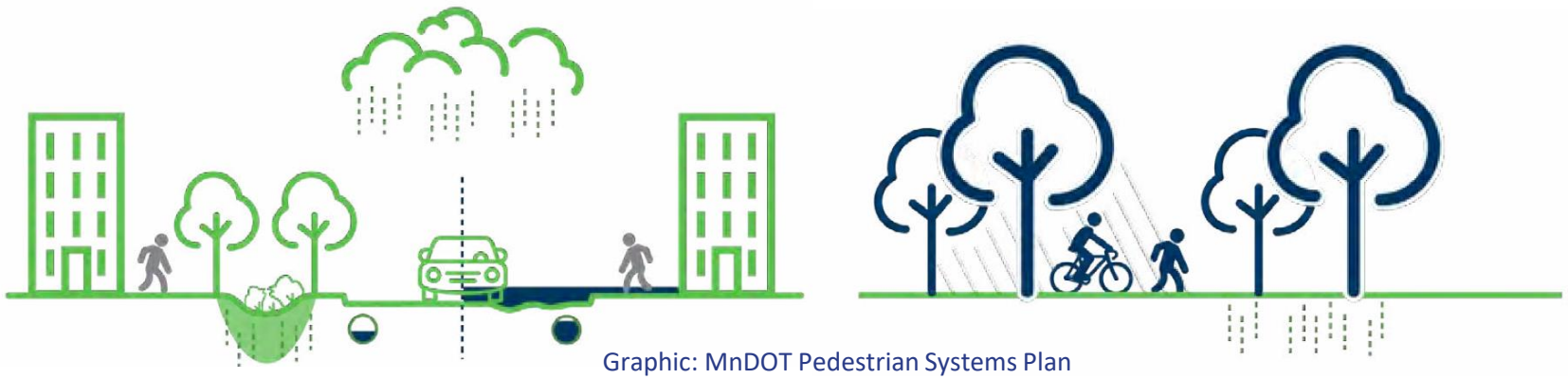
A Few Highlights: Existing Plans & Policies that Support Central Entrance

MnDOT Statewide Pedestrian System Plan (2021)	**MnDOT Complete Streets Policy (2016)**	**Duluth-Superior Metropolitan Bikeways Plan (2019)**	**Duluth Trail & Bikeway Plan (2011)**	**Imagine Duluth 2035 (2018)**
Seek opportunities to **provide wide vegetated buffers** between people walking and vehicle traffic (IP-12) **Prioritize street trees** as critical pedestrian infrastructure for adapting to climate change (IP-13) Evaluate ways to allow MnDOT to **pay for design elements** that are context appropriate, **but may exceed current design standards** (CP-5) Design to support **effective maintenance** (M-1) Establish a **winter prioritization network** for clearing **pedestrian facilities** that ensures that the best access is provided to the greatest number of people possible following a heavy storm event (M-4)	"MnDOT must follow a complete streets approach in **all phases** of planning, project development, operation, and **maintenance activities**." Support the goals of the transportation system: • **Minimize fatalities and injuries** • Provide multimodal and intermodal transportation facilities and services to **increase access** for all persons and businesses • **Increase use of transit** as a percentage of all trips • **Increase bicycling and walking** as a percentage of all trips	Vision: *Duluth-Superior Metro Area is a great place for people to bicycle **all year**…This can be seen in the numbers of people who are out and about on a bike, **regardless of the season**.* Close gaps: Central Entrance All ages all abilities	Vision: *To be the premier trail city in North America.* Objectives: • Use sustainable methods • Positively influence polices & revenue to enhance maintenance & construction "Add bike lanes on Central Entrance or develop an off road trail to connect downtown to the trail along Palm Street."	"Imagine Duluth 2035 puts people and natural places at its center and shifts away from the auto- and industry-centric development of the past." Implementation Steps: • **Clear sidewalks** along **multi-modal priority routes** immediately after a snowfall • When constructing streets, include **boulevards** where space allows • Use **green infrastructure** as aesthetic amenities & providing **stormwater treatment** • Transportation corridors such as **Central Entrance** should be treated as **gateways**

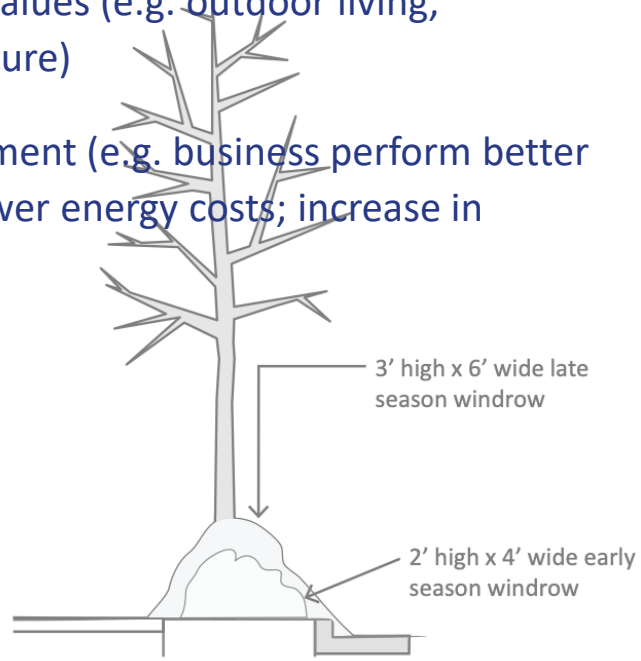
Co-Benefits of 'Green' Streets

Buffer Space (and medians) for Trees and Green Stormwater Infrastructure Benefits

- Reduce water pollution and strain on traditional stormwater systems
- Space for snow storage and snow melt in the winter
- Tree canopy to provide shade, intercept rain and snow, filter air, and capture carbon
- Greater separation from vehicle traffic, noise, and pollution for people who walk, bike, live and work on street
- More comfort and enjoyment to people walking and bicycling
- A more beautiful street (includes placemaking opportunities)
- On-site holding and filtering of storm run-off
- Showcases community values (e.g. outdoor living, recreation, access to nature)
- Proven return on investment (e.g. business perform better on streets with tress; lower energy costs; increase in property values)



Graphic: MnDOT Pedestrian Systems Plan



Graphic: St Paul Street Design Manual

A Street to Beet…

How can Central Entrance be a model for the City, Region, State?

Stormwater Best Practice: Jackson Street, Saint Paul

- Porous Asphalt
- Bio-Infiltration Basin Systems
- Street Trees (not pictured)

Photo: Toole Design Group

The Triple Canopy

Photo: Dan Burden

Photo: 450architects.com

central entrance
DULUTH, MN

Demonstration Projects


Montreal, Canada
Source: Issac Olson/ CBC

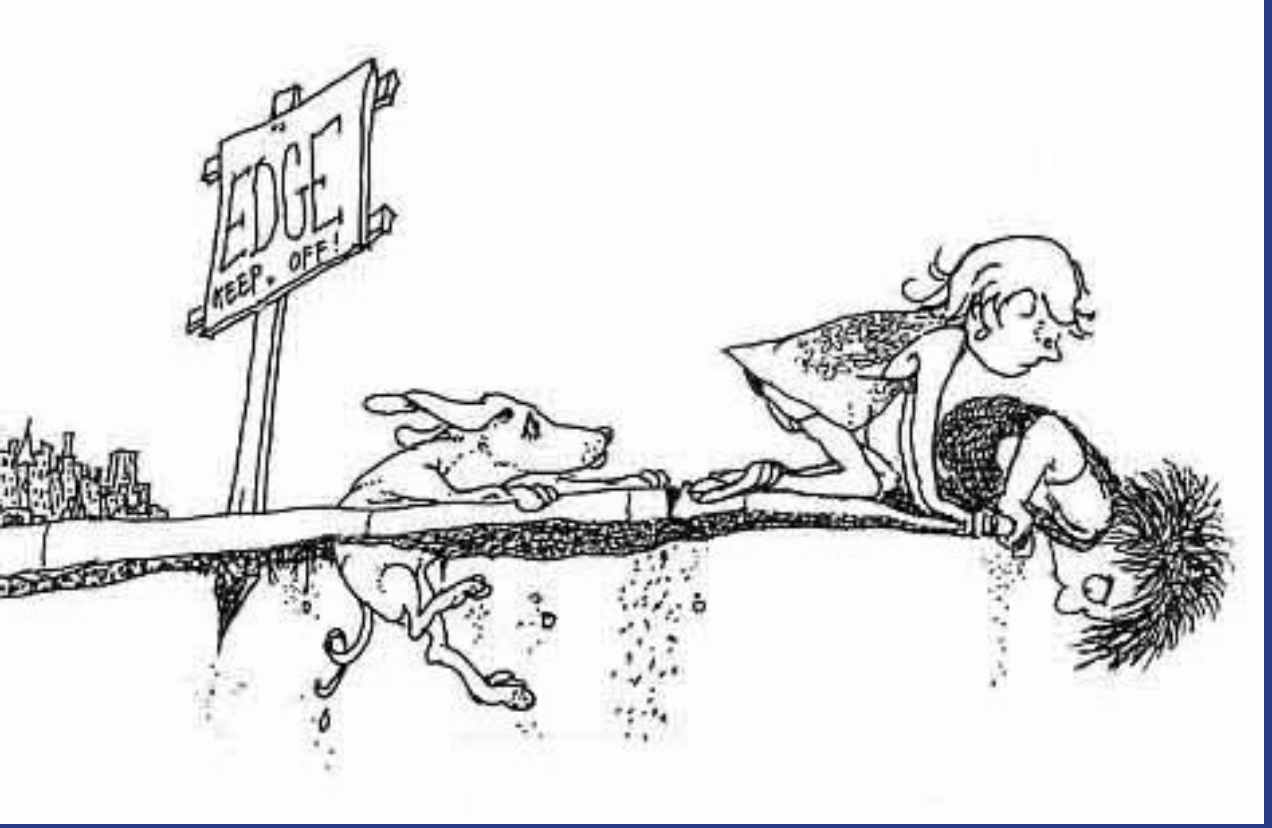
Clearing Protected Bike Lanes/Trails

Key Principles:

- **Priority Network:** Which routes are the highest priority for snow clearing?
- **Frequency of Clearing:** Leading winter cities specify the amount of accumulated snow that is acceptable before clearing will commence. Common accumulation = 1 in
- **Clear Width:** How wide of a path along the bikeway will be cleared? What minimum width is allowable? MassDOT Separated Bike Lane Planning & Design Guide, for example, specifies a minimum of 4 feet for the narrowest operable protected bike lane.

People biking require accessible bike parking, even in winter.

Photos: Alta Planning



Corner Clearing

City of Minneapolis clears all corners citywide. They begin with the corners prioritized on the City's *Pedestrian Street Lighting Corridors.* Once priority routes are cleared, the city clears the remaining city corners. Corner clearing is snow accumulates over 4 inches or the City declares a Snow Emergency.

So What | Now What

What future do we want to create? How do we reverse engineer the pathway to get there?

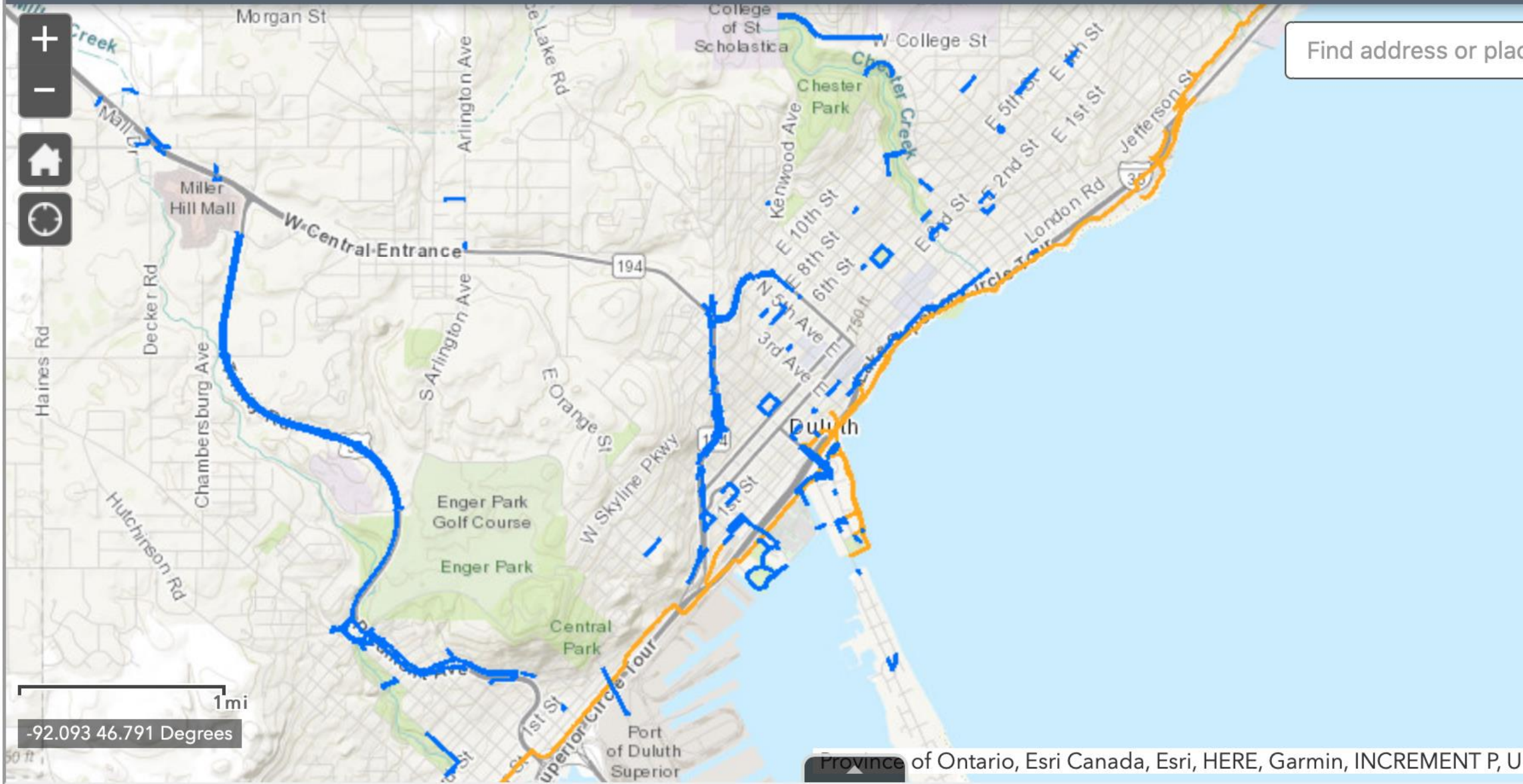
City of Duluth by the Numbers	
Miles of sidewalks	403 miles*
Miles of sidewalks plowed (by Parks & Rec)	80 miles**
Miles of Trails	178 miles*
Average annual snowfall	81 inches

The priority routes -- intended to be reevaluated on an ongoing basis--are designated in the following order:

- Safe Routes to School sidewalks
- High pedestrian traffic areas
- Sidewalks along public transit routes
- Mid-level pedestrian traffic area
- Park facilities

*Imagine Duluth 2035
**Minnesota Walks – Sidewalk Clearing Guide

Sidewalk Snow Removal Overview

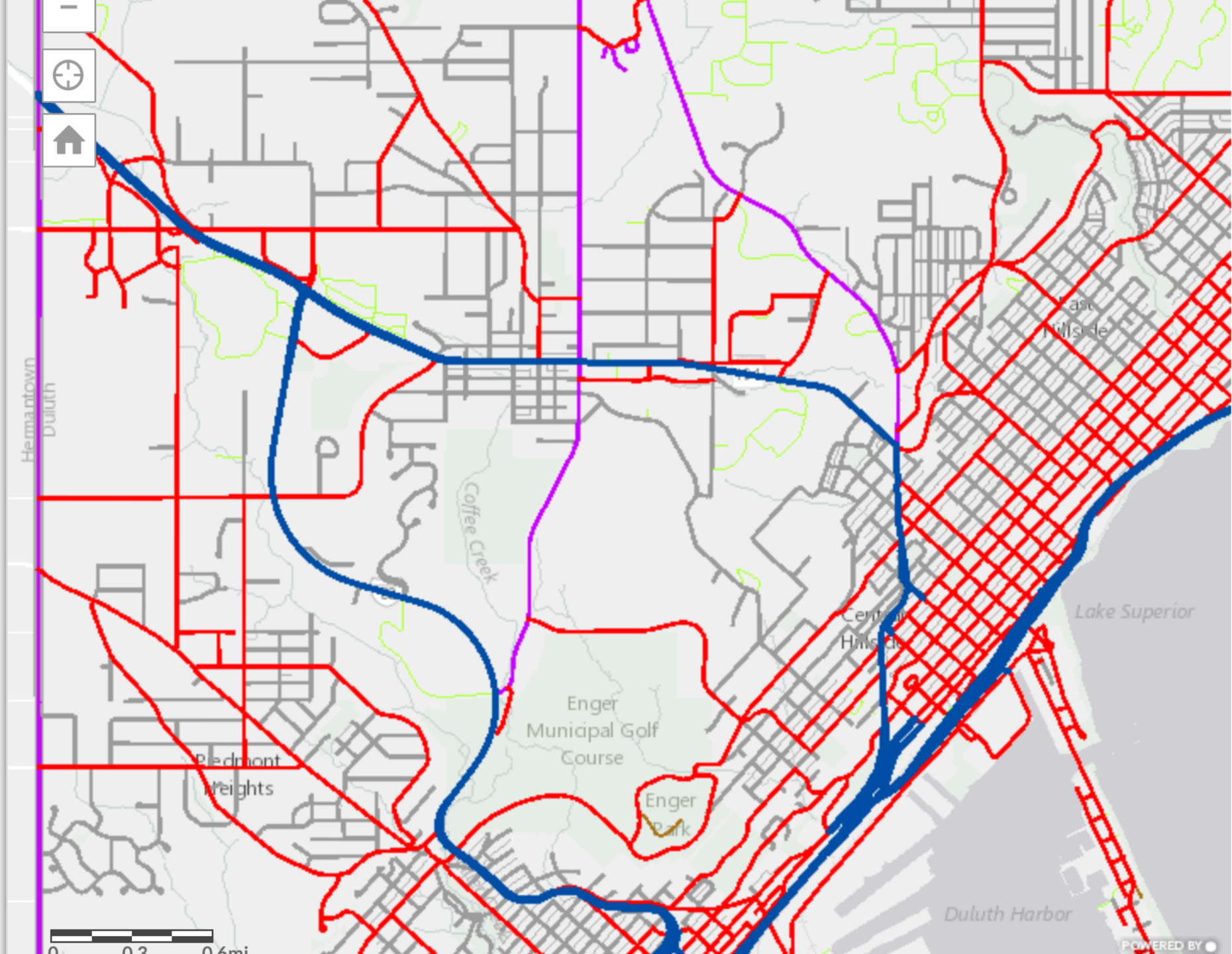


SnowPlowPriority

Snow Plow Priority (Streets)

- Priority1
- Priority2
- Priority3
- County
- MNDOT
- Private or Other
- Closed

Duluth Boundary



LET'S CHAT

Does Central Entrance meet the City's & State's sidewalk and/or bikeway clearing priority route criteria?

- If yes, what does that mean in how it is managed?
- If not, should it? What needs to change or happen?

LET'S CHAT

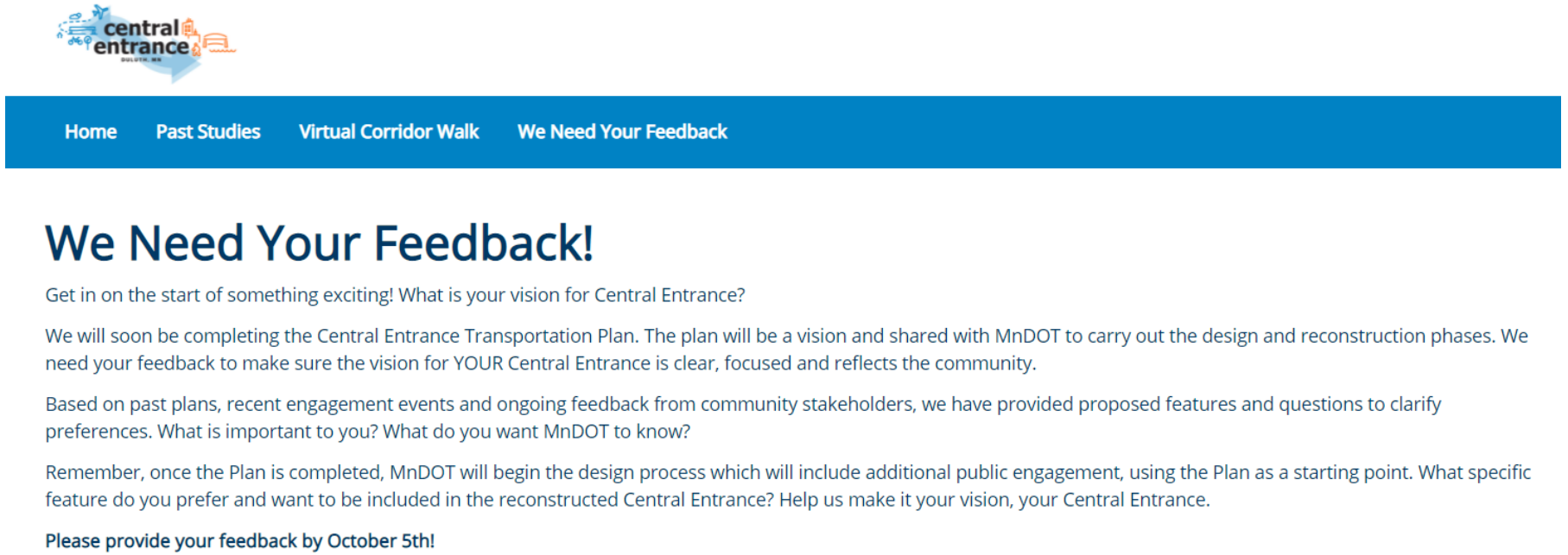
What maintenance considerations/ needs help inform design?

What design priorities are emerging due to maintenance needs?

LET'S CHAT

What questions do we need to explore further? With Whom?

Virtual Open House Updates



Schedule

Event	Date
Second CAC Meeting	September 29th
Steering Committee Meeting	October 8th
Steering Committee Meeting	November 12th
Draft Report Due	November 12th
Comments on Draft Report Due	December 8th
Steering Committee Meeting	December 10th
Final Report Due	December 31st

Next Steps

- Complete traffic modeling
- Feedback on concepts via project website
- Revisit items discussed today
- Begin discussing revisions to concepts
- Develop guiding values

Contacts

Mike Wenholz, Senior Planner, Duluth Superior Metropolitan Interstate Council
mwenholz@ardc.org
(218) 529-7573

Austin Hauf, Transportation Planner, WSB
ahauf@wsbeng.com
(763) 762-2827

Thank you