



Principal Arterial Study

North Subarea Meeting

January 4, 2018

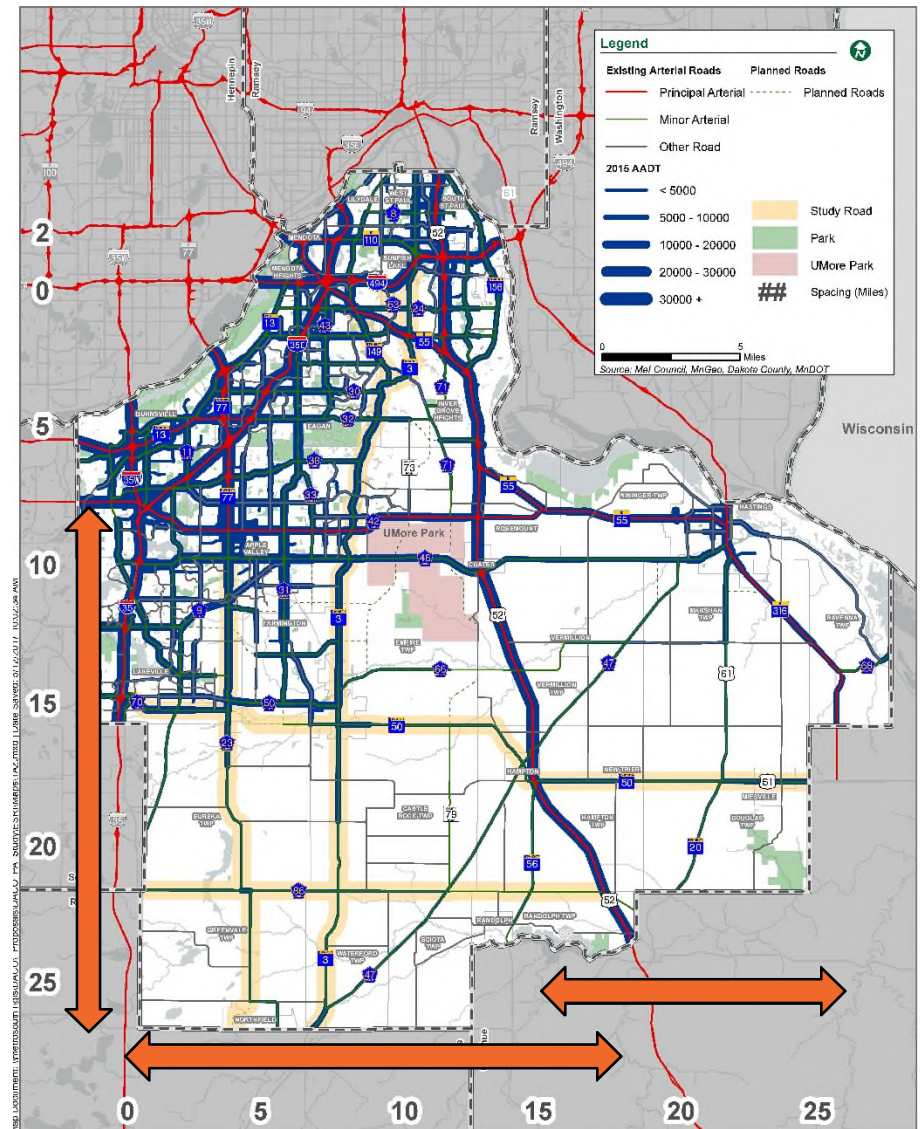


What is a principal arterial?

- A principal arterial (PA):
 - *Connects the region with the other areas in the state or connects metro centers to regional business concentrations. The emphasis is on mobility as opposed to land access. (Dakota County, 2012; 2030 Transportation Plan).*
 - *Carries the major portion of trips entering and leaving an activity center, as well as the majority of through movements. (FHWA, 2013; Functional Class Concepts, Criterial and Procedures).*
- Dakota County: 18 miles of principal arterial highways (4 percent of County system). PAs carry a large share of VMT (~50% regionally)

What is the problem?

- Dakota County PAs:
 - Well established to the north
 - Not well established in growth areas south of CH 42 & east of I-35
- Met Council guidance on network spacing of PAs:
 - 2-6 miles in developing suburban areas
 - 6-12 miles in rural areas

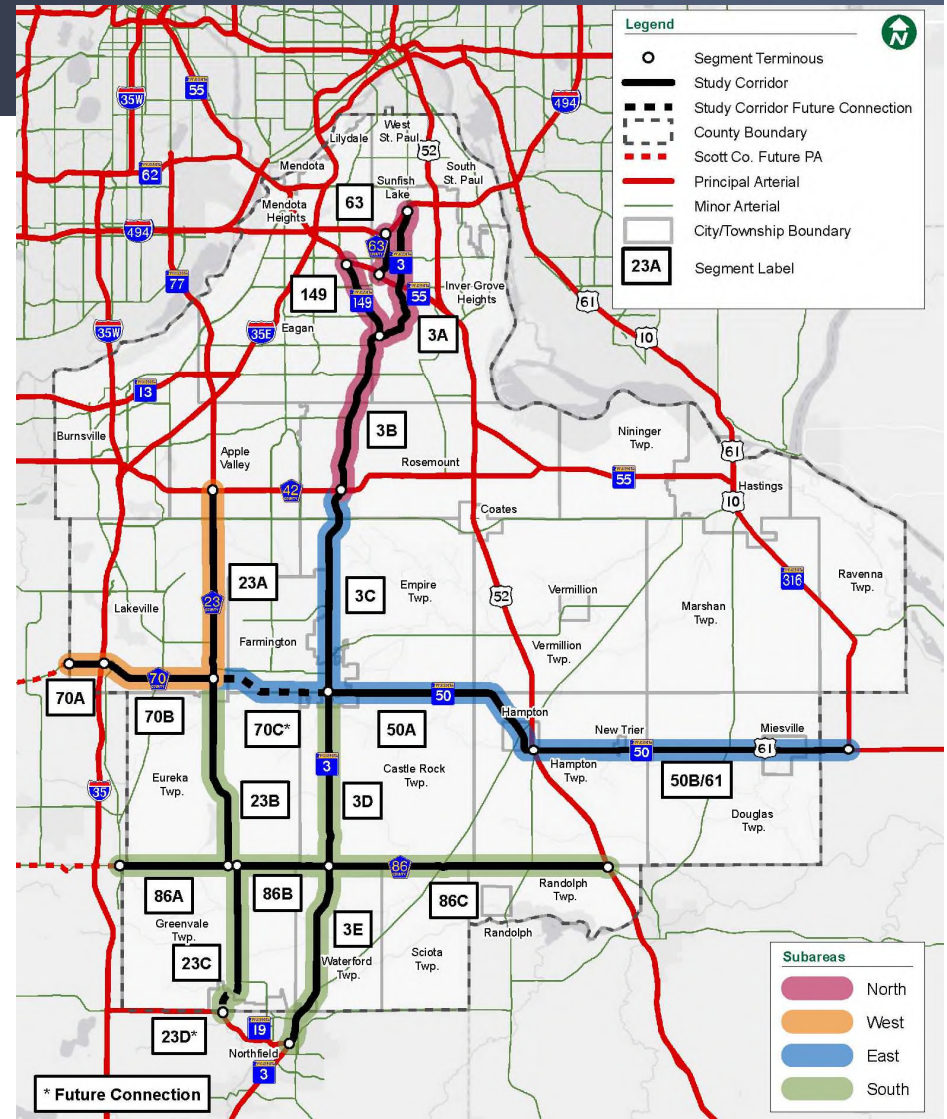


What if we don't designate new PA segments in Dakota County?

- Incomplete highway system; unplanned network
- Increasing traffic on highways not planned or designed for needs (volumes & speeds)
- Poor mobility; inefficient transportation
- Likely increase in safety problems
- Unclear priorities for project development and funding

What is the approach to complete the PA Study?

- Four Subareas
 - **North:** MN TH 3, MN 149, CH 63
 - **West:** CH 23/Cedar Ave., CH 70
 - **East:** CH 70, MN 50, US 61
 - **South:** MN 3, CH 23, CH 86
- Study outcomes
 - Priorities and action plans for future PAs
 - Local guidance



What is the evaluation process?

Identify the Major Highways to be Studied

(existing state and county highways with good continuity, serving key destinations)

Evaluate segments based on principal arterial (PA) characteristics

Decision Characteristics

Should the highway be a PA?

- **System spacing** – highway location in relation to existing PAs
- **What is the traffic volume?**
- **System Connections and Capacity Role** – connected to existing PAs; serves more traffic than parallel highways
- **Freight Connections** – Is the highway a “truck route”?

Timing Characteristics

Is the highway ready to be a PA?

- **Access spacing** – intersections at least ½ mile apart
- **Posted Speed** – posted for 40 mph or faster
- **Major Intersections** – connects to high-capacity intersections or interchanges
- **Transit** – serves scheduled transit service (urbanized areas only)
- **Right-of-Way** – space to accommodate possible long-term highway improvements
- **Parking** – Is there parking? (Parking discouraged on PAs.)

What is the evaluation process?

(See handout)

Subarea	Segment	Setting	Decision Characteristics (Should it be a PA?)					Decision Total	Timing Characteristics (Is it ready to be PA?)					Timing Total	
			1. System Spacing	2. Typical Volume (2030) ^A	3. System Connections	4. System Capacity Role ^B	5. Freight Connections		6. Access Spacing	7. Posted Speed	8. Intersections	9. Transit	10. Right-of-Way		11. No Observed Parking+Posted
North	3A	Urban		✓ 23,000	✓	✓		3/5	✓	✓	✓	✓	✓✓	✓	6.6
	3B		✓	✓ 31,000	✓	TH77	✓	4/5	✓			✓	Dtown Rosemount	✓✓	3.6
	63 ^C		✓	✓ 41,000	✓	✓	(Planned) ^F	5/5	✓	✓	✓	(Planned) ^F	✓✓	✓	6.6
	149		✓	✓ 30,000	✓	✓		4/5	✓	✓		✓	✓✓	✓	5.6
West	23A	Urban	✓	✓ 50,000	✓	✓	✓	5/5	✓	✓	✓	✓	✓✓	✓✓	6.6
	70A		✓	✓ 19,000	✓	CH 60		3/5	✓	✓	✓		✓	✓	5.6
	70B		✓	✓ 20,000	✓	CH 60, CH 50	✓	4/5	✓	✓	✓		✓	✓	5.6
East	70C ^D	Urban	✓	✓ 7,700		(Future Connection) ^F		4/5	✓			(Future Connection) ^F			1.6
	3C		✓	✓ 26,100	✓	CH 31	✓	4/5	✓	✓	✓		✓	✓	5.6
	50A	Rural	✓	✓ 10,200	✓	CH 46	✓	4/5	✓		✓	na ^G	Hampton	✓	3.5
	50B/61		✓	✓ 4,800	✓	CH 46	✓	4/5		✓	✓	na ^G	New Trier, Mesville	✓✓	3.5
South	3D	Rural	✓	✓ 7,300		✓	✓	4/5	✓	✓		na ^G	✓✓	✓	4.5
	3E		✓	✓ 7,460	✓	✓	✓	5/5	✓	✓		na ^G	✓✓	✓	4.5
	23B		✓	✓ 12,000	✓	✓	✓	5/5		✓		na ^G	✓✓	✓	3.5
	23C		✓	✓ 5,400		✓		3/5		✓		na ^G	✓	✓	3.5
	23D ^D		✓	✓ 9,900	✓	(Future Connection) ^F		5/5	✓			(Future Connection) ^F			1.6
	86A		✓	✓ 5,300		✓	✓	4/5		✓		na ^G	✓	✓	3.5
	86B		✓	✓ 11,000		✓	✓	4/5				na ^G	Castle Rock	✓	1.6
	86C		✓	✓ 4,800	✓	✓	✓	5/5		✓	✓	na ^G	✓✓	✓	4.5

What are the next steps?

Early 2018

- Evaluate Study results and input
- Identify possible new principal arterial designations
- Complete Final Report – Include findings and recommendations for all highways evaluated in the Study

Conclude the Study



Include results in Dakota County's
2040 Transportation Plan

Continue planning for Dakota
County highways and
communities

What are the next steps?

2018 to about 2030

- Continue highway planning
- Designate selected segments as new principal arterials (in cooperation with regional and local agencies)
- Update Dakota County and local transportation plans

Update Results as Needed

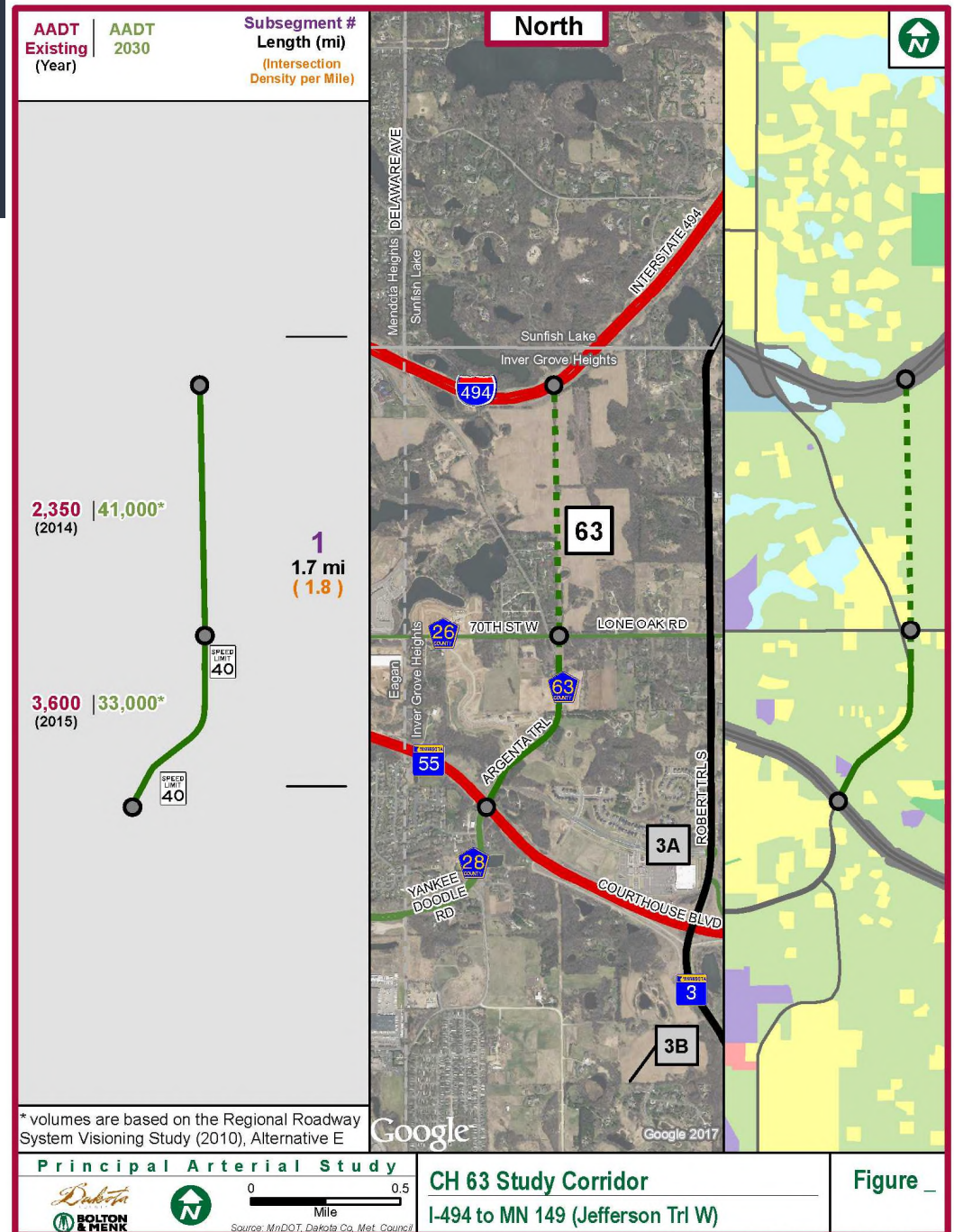


Reflect the Study in related county and local transportation plans

Manage the County's highways and local growth through proactive planning and design

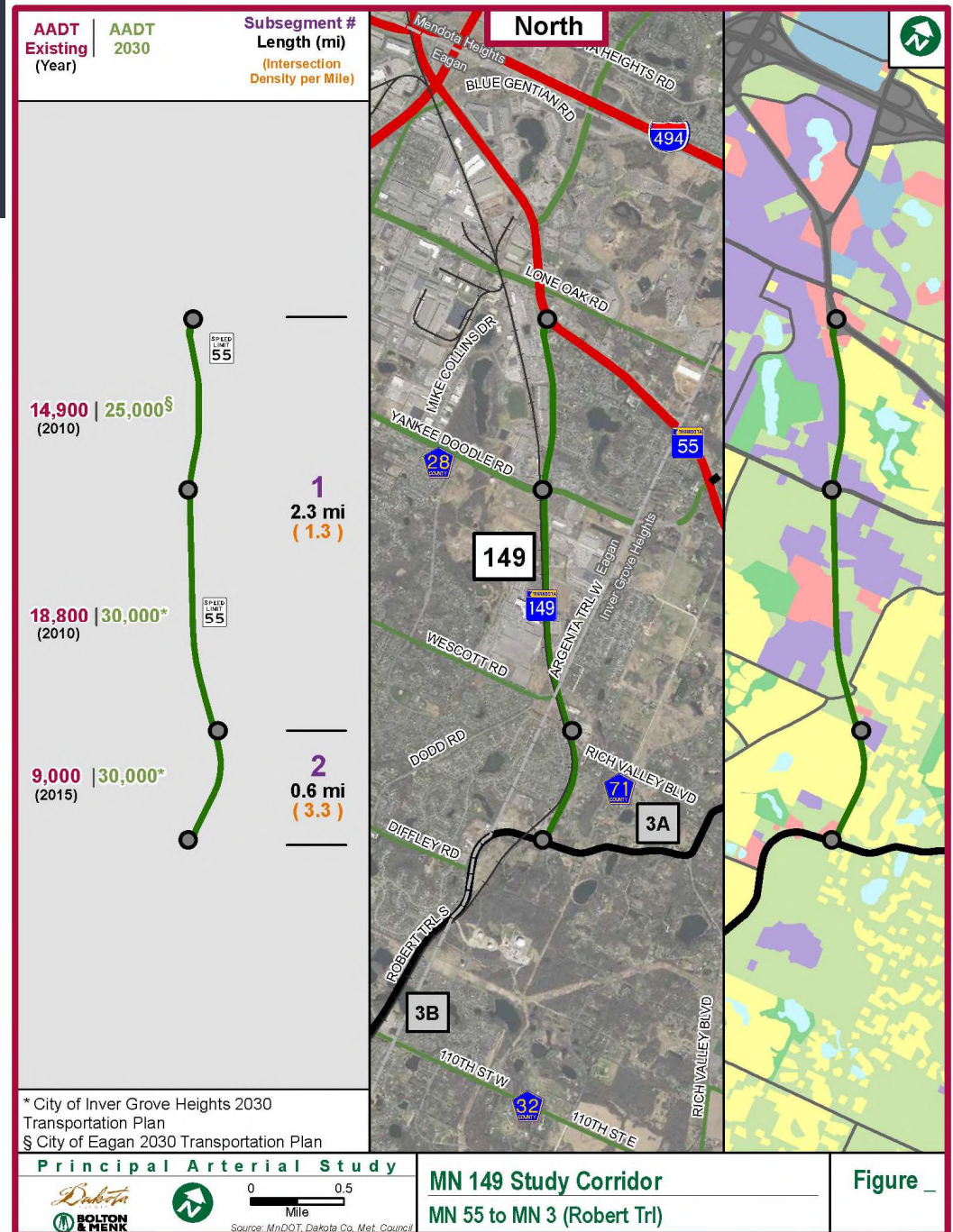
North Subarea County Hwy. 63

- Segment includes existing Argenta Trail and new connection to the north
- Entire segment will connect I-494 and MN 55, both PAs.
- County studied future connection and has acquired much of the right-of-way needed for the future extension.
- Forecast volumes are greater than MN Hwy 3



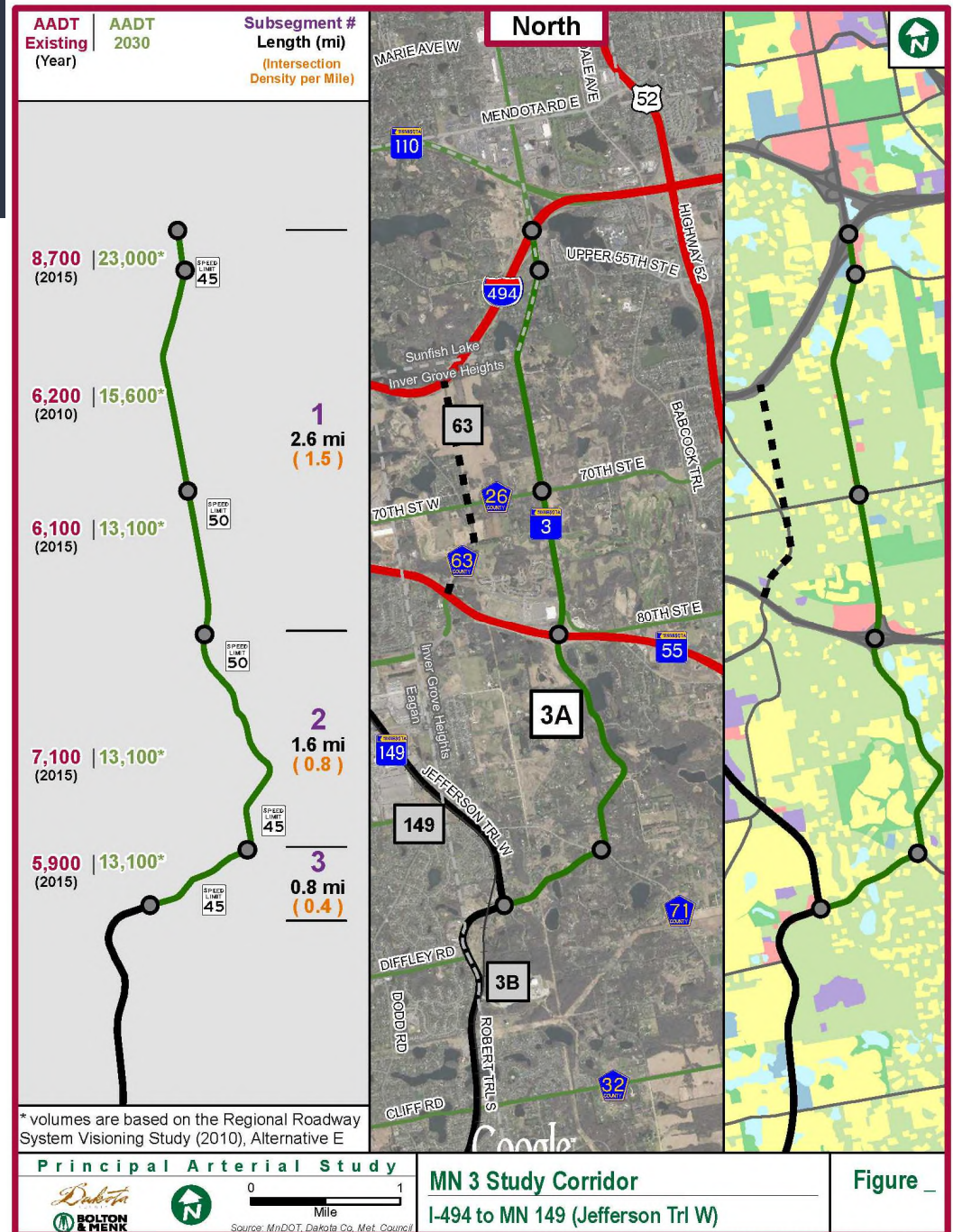
North Subarea Hwy. 149

- Connects to MN 55 to north (a PA), and to MN 3 in the south (an A-minor arterial).
- Forecast volumes are greater than the similar segment of MN Hwy 3.
- Major employment and shipping destinations (Thomson Reuters, UPS, other freight businesses).



North Subarea Hwy. 3A

- Connects to I-494 to north and to MN 149 to south; also crosses MN 55
- S of MN 55 (South Robert Trail portion) has many curves and environmental constraints (residential)
- As noted, forecast volumes are lower than observed on similar segments of County Hwy 63 and MN Hwy 149



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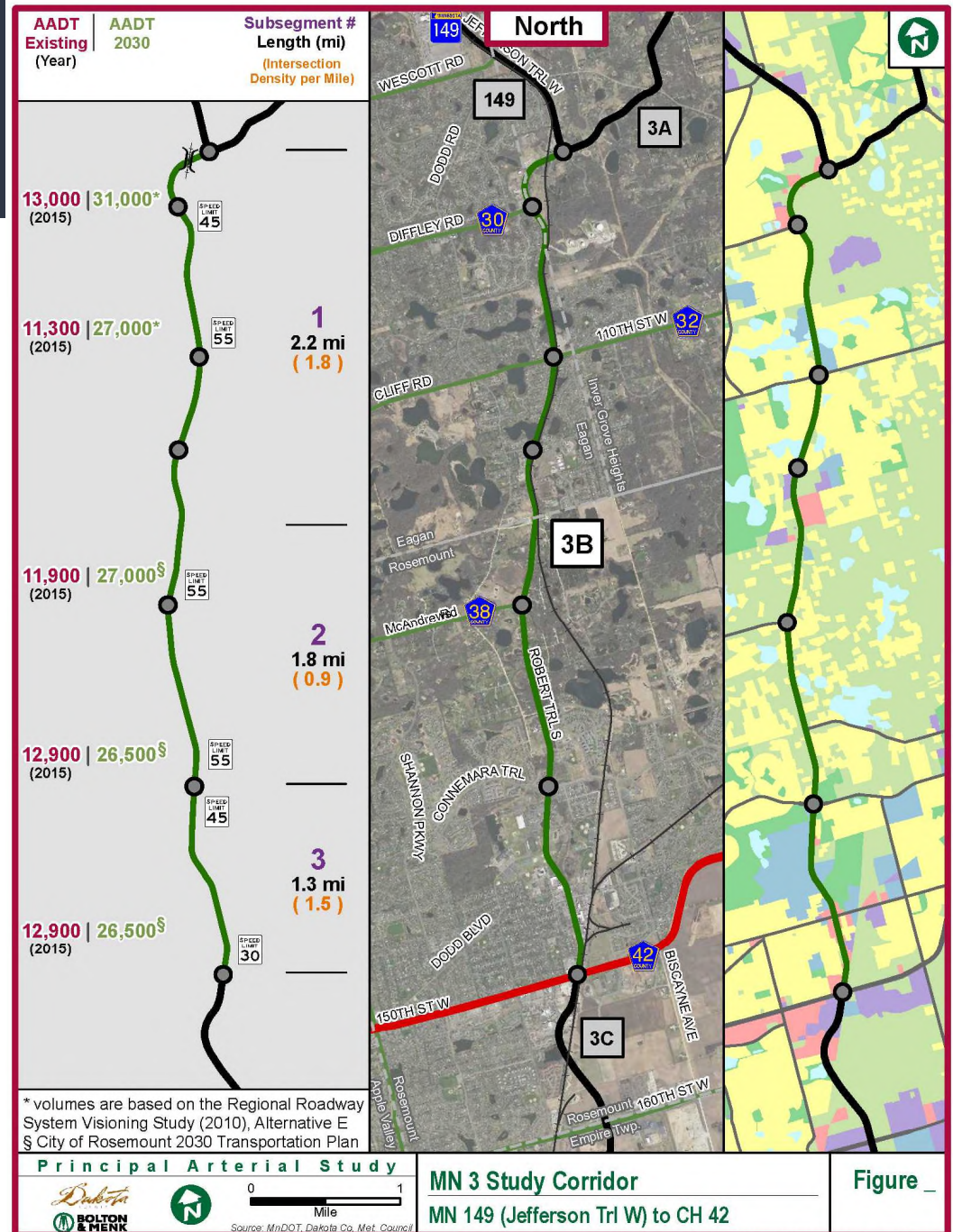
0 1
Mile
Source: MnDOT, Dakota Co. Map Council

MN 3 Study Corridor
I-494 to MN 149 (Jefferson Trl W)

Figure _

North Subarea Hwy. 3B

- Connects to PA - CH 42 to south.
- Major commercial and industrial sites in downtown Rosemount
- Challenges in Rosemount:
 - RR next to TH 3 and the rail overpass on north end are constraints.
 - Narrow right-of-way, 30-mph posted speed, and many access points.



Questions, Discussion