



Principal Arterial Study

South Subarea Meeting

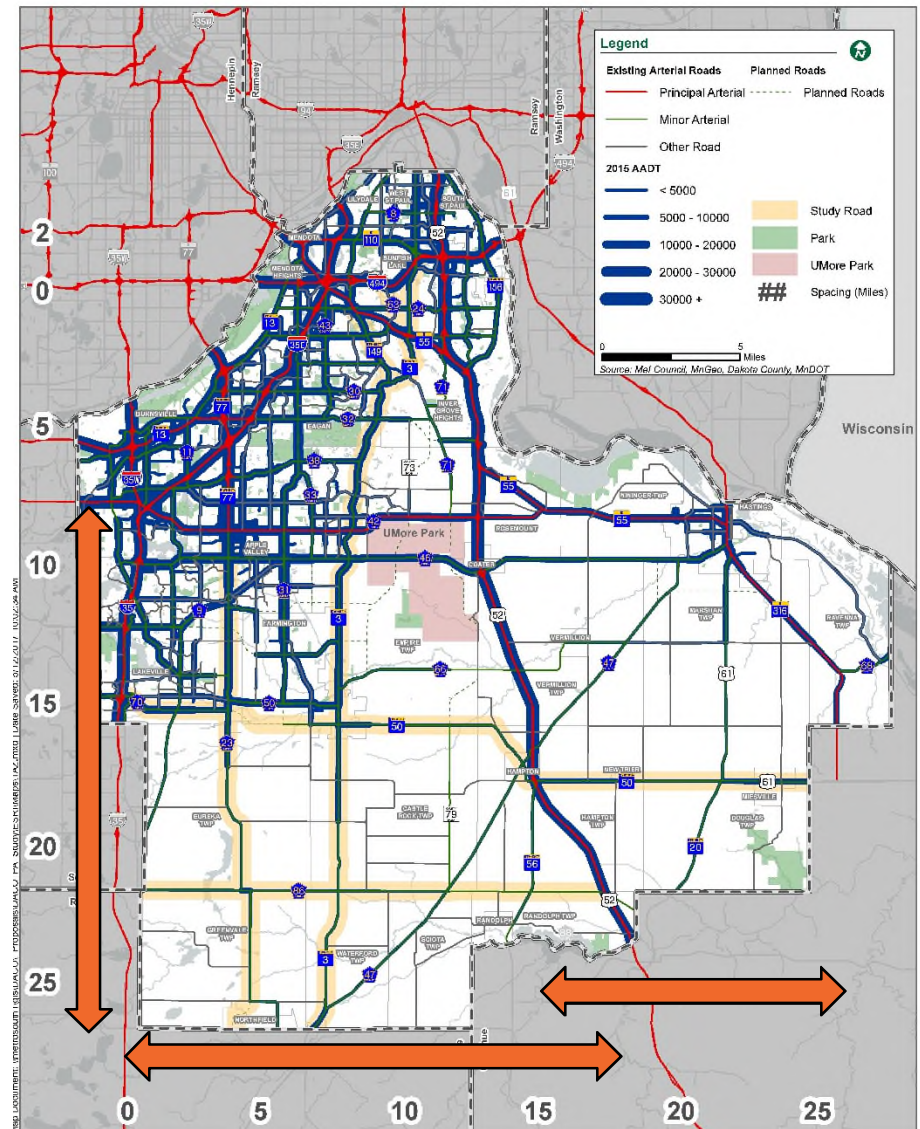
December 13, 2017

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

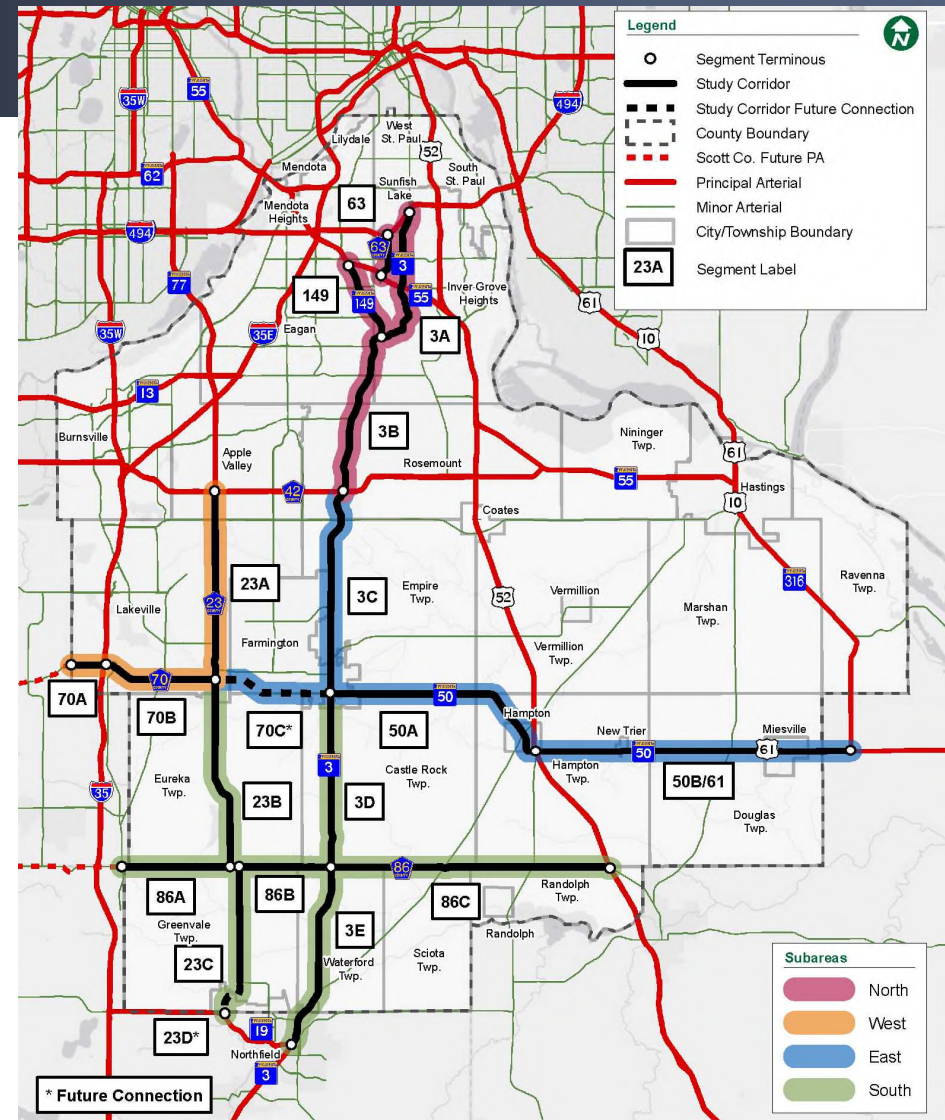


What if we don't designate new PA segments in Dakota County?

- 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
 - CH 23 (Cedar Ave.)
 - MN TH 3 (w/TH 149, CH 63)
 - CH 70 - MN TH 50 - US TH 61
 - Southern Subarea (CH 23, TH 3, 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

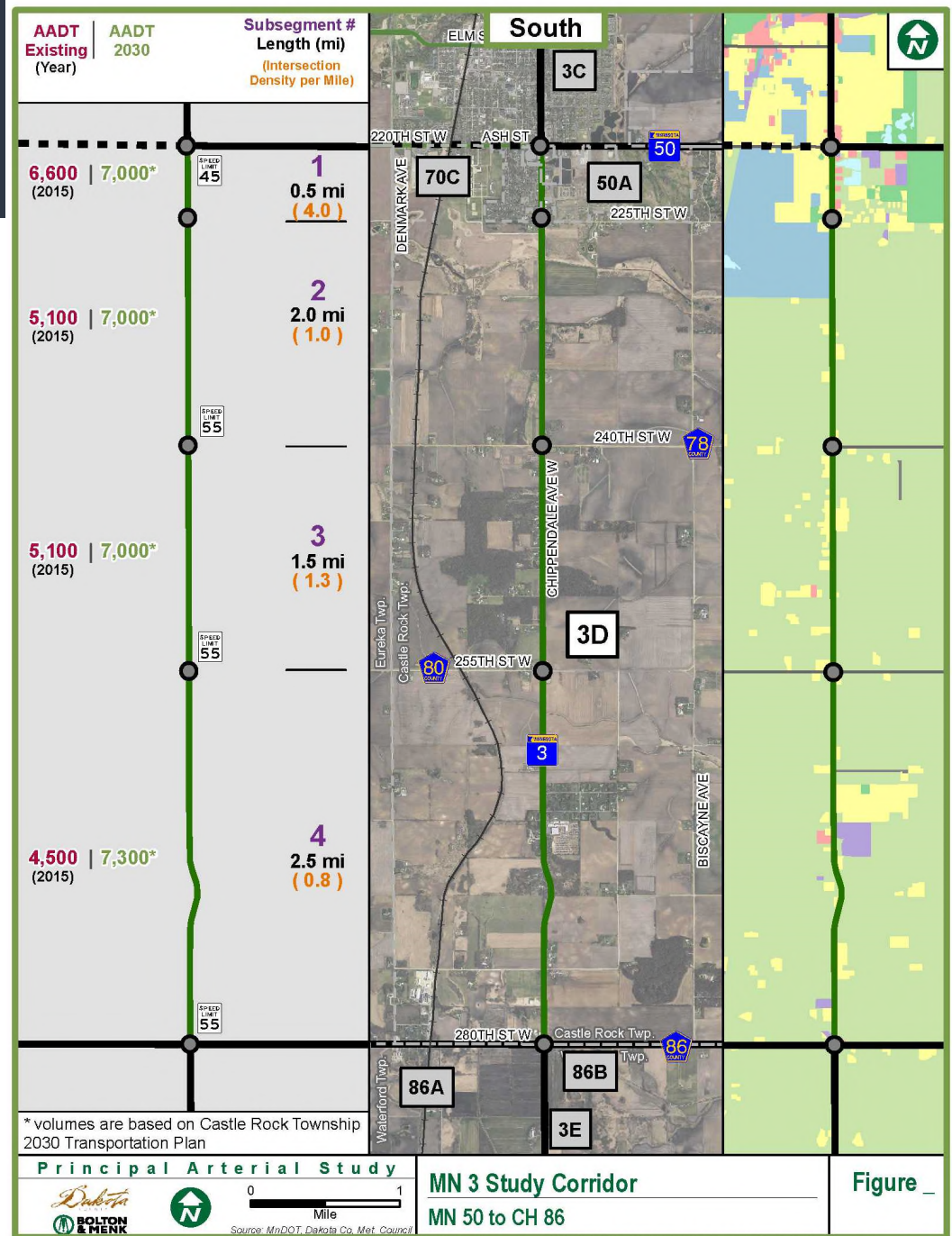


Reflect the Study in related county and local transportation plans

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

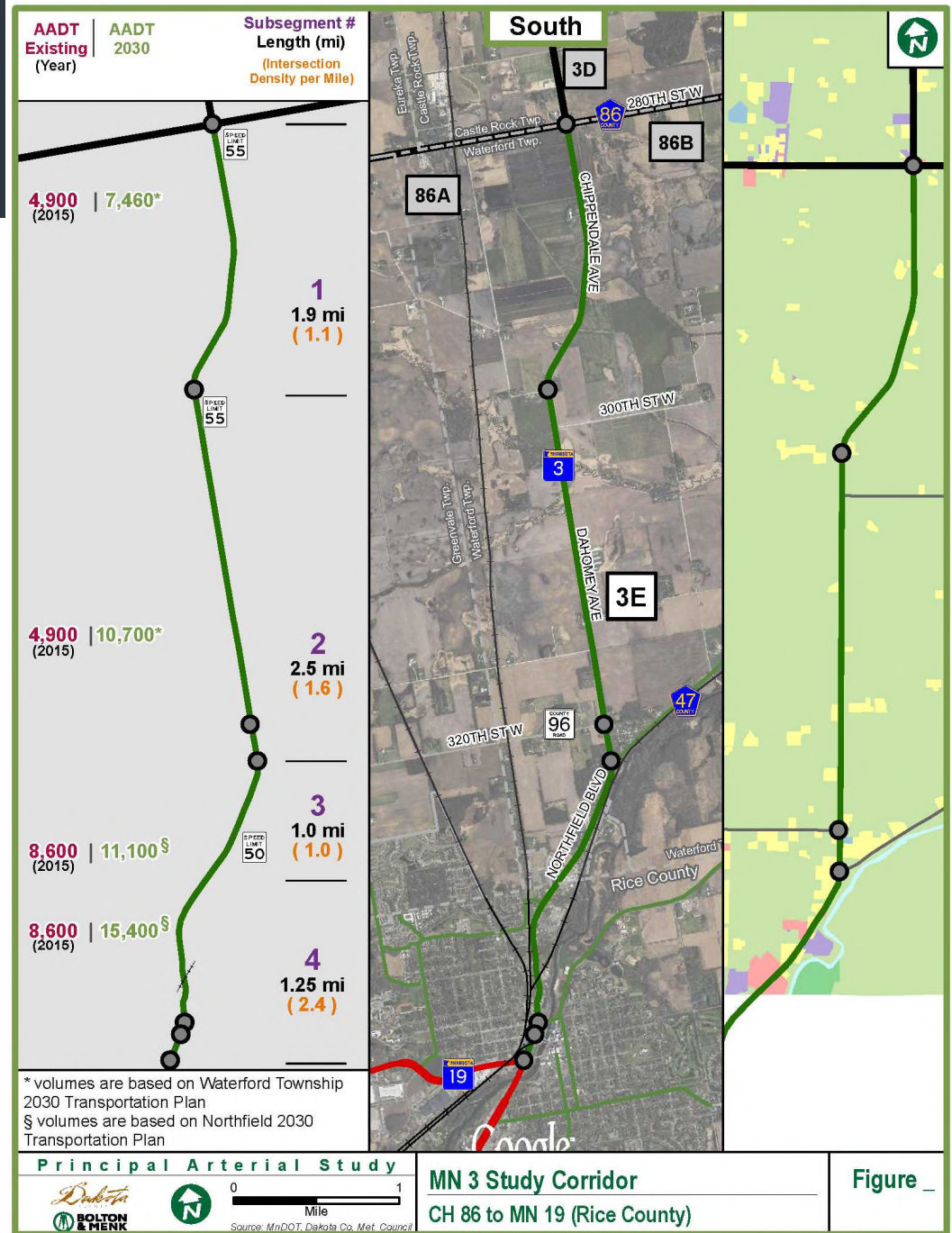
South Subarea Hwy. 3D

- Connects to existing a-minor arterials: TH 50 to north and CH 86 to south.
- Farmington at north end, connecting to Northfield to south.



South Subarea Hwy. 3E

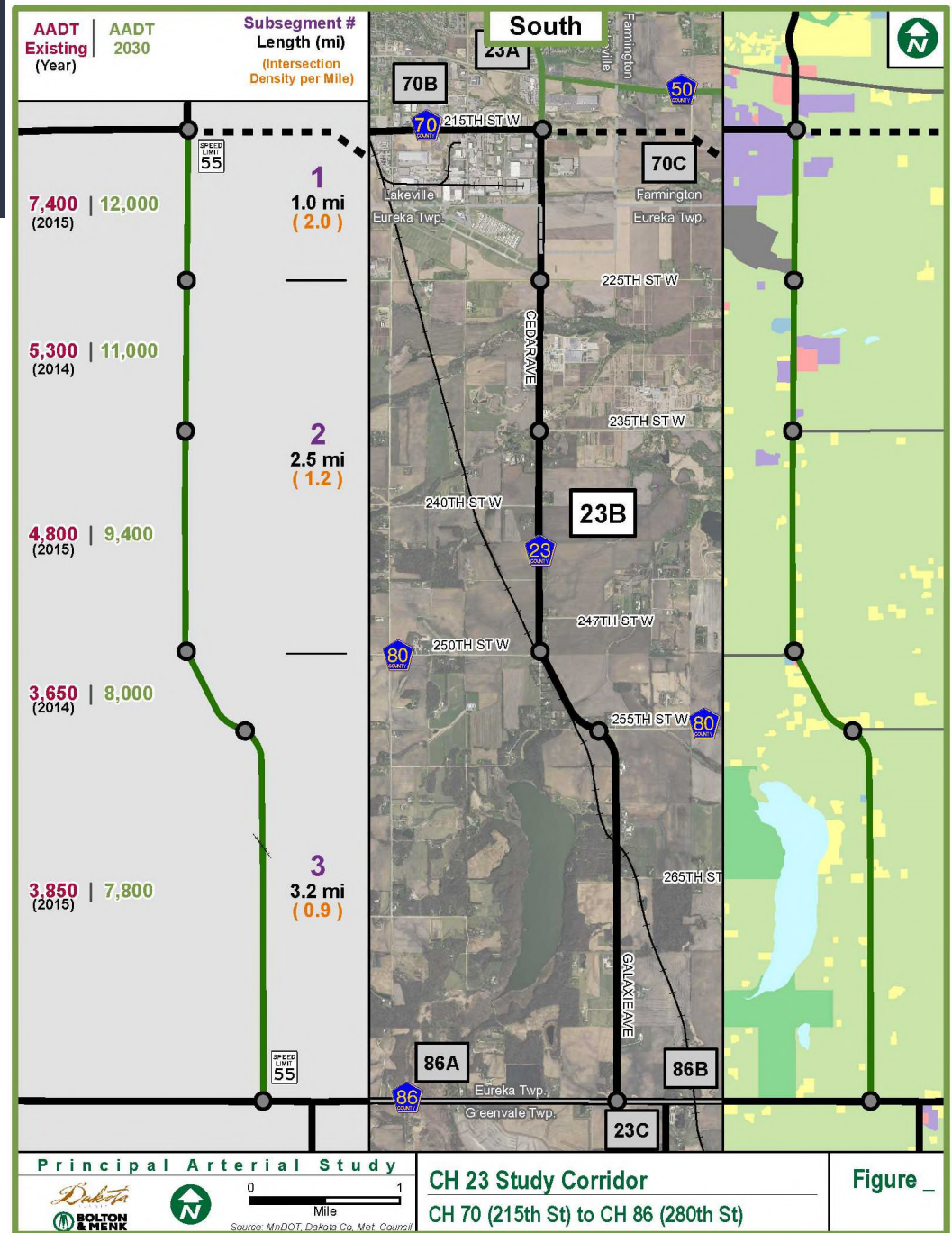
- Connects to a-minor arterial to north (CH 86) and an existing principal arterial to south (TH 19 in Rice Co).
- Future designation depends on other possible Dakota Co. system updates, including CH 23 (parallel).



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Source: MnDOT, Dakota Co. Map, County

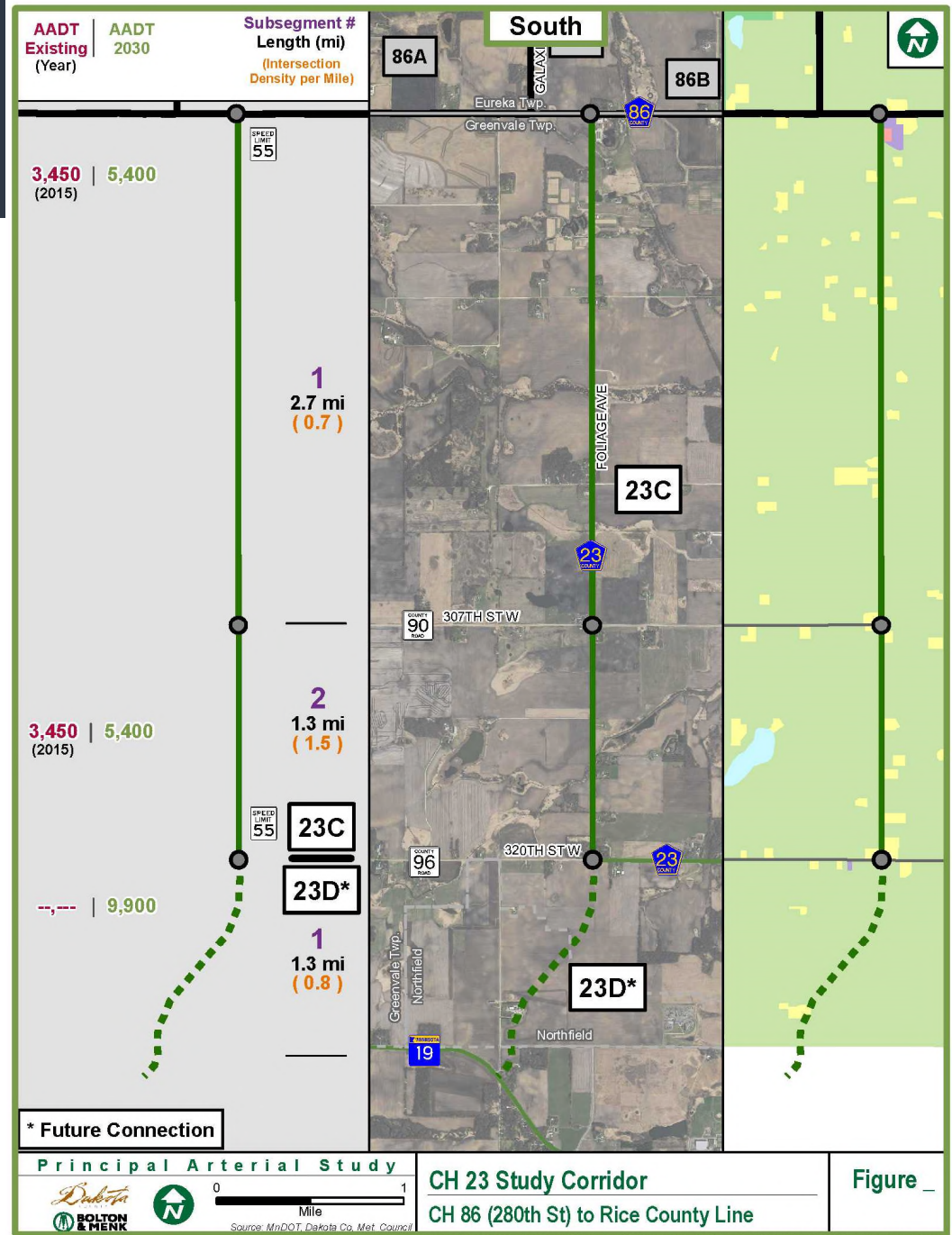
South Subarea Hwy. 23B

- Connects to existing a-minor arterials: CH 70 to north and CH 86 to south.
- Major industrial sites and a reliever airport at north end.



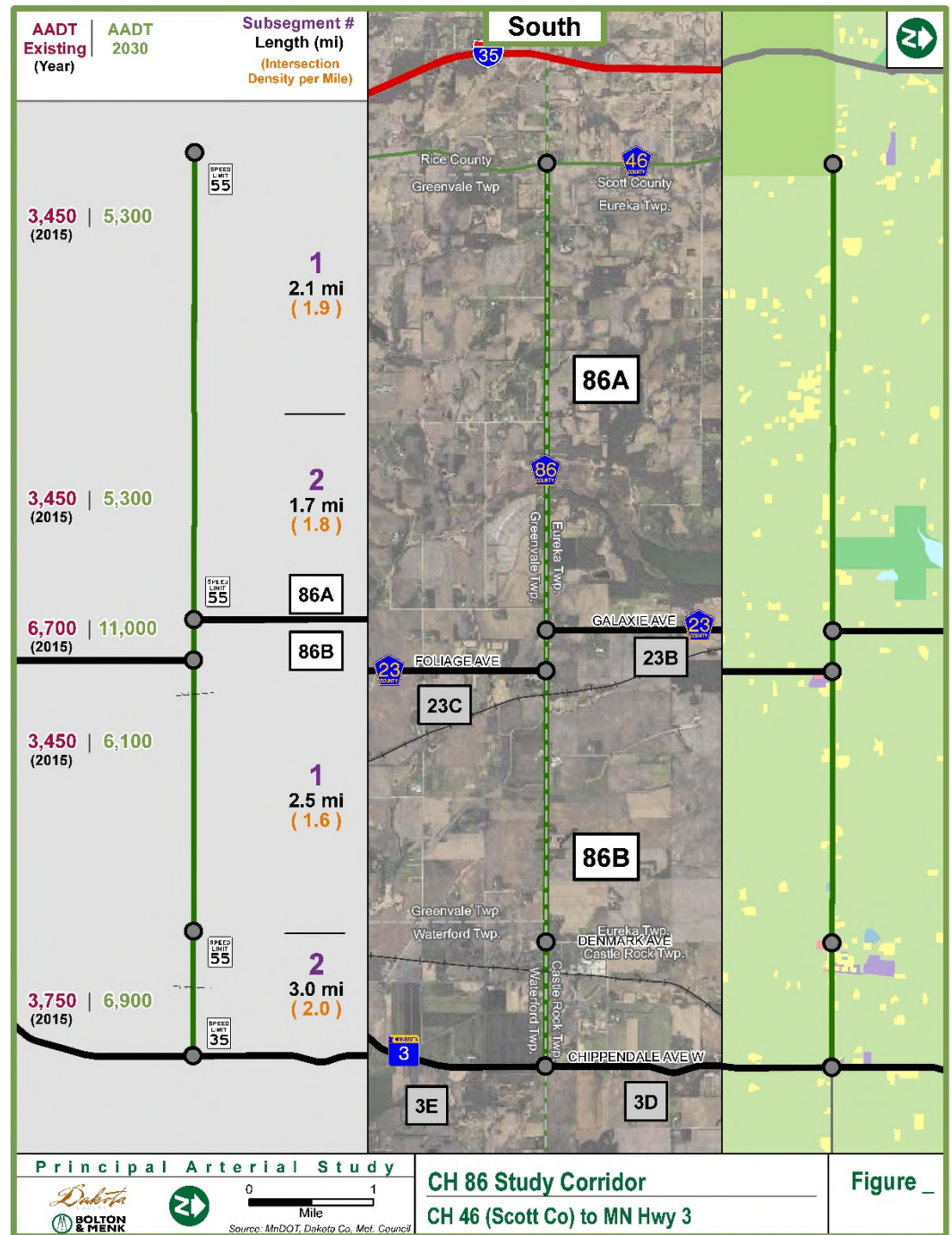
South Subarea Hwy. 23C/D

- Connects to a-minor arterial to north (CH 86) and an existing principal arterial to south (TH 19 in Rice Co).
- Recommend study of new 23D connection.
- Future designation depends on other possible Dakota Co. system updates, including TH 3 (parallel).



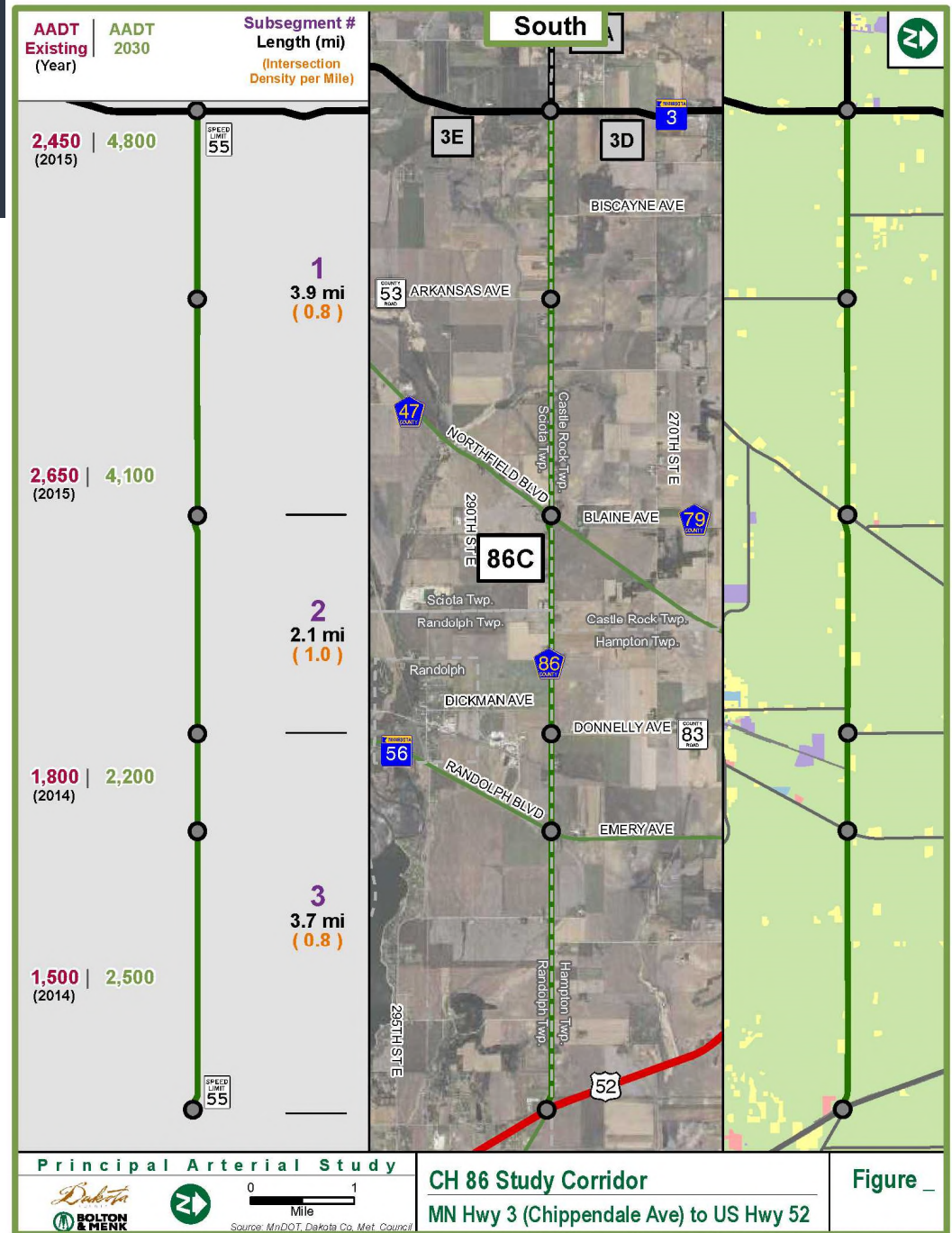
South Subarea Hwy. 86A/B

- Connects to Scott County to the west (long east-west route)
- No direct connection to I-35 (but has been proposed)
- Connections to both CH 23 and TH 3
- Low posted speed and space constraints in Castle Rock (more planning needed)



South Subarea Hwy. 86C

- Connects to PA, TH 52 on east end.
- Relatively low travel demands
- Future designation dependent on more planning, and decisions about other system priorities



Questions, Discussion