



# ***Principal Arterial Study***

East Subarea Meeting

November 30, 2017

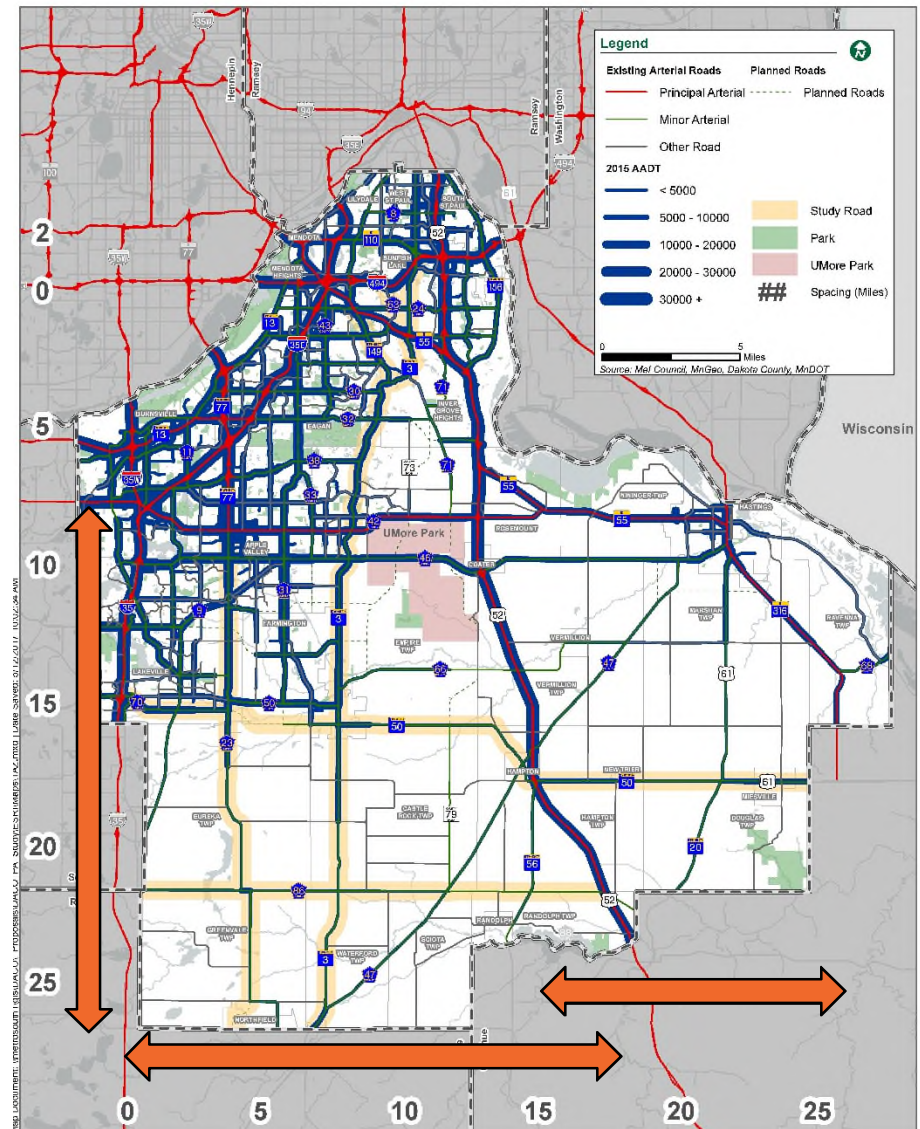


# What is a principal arterial?

- 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



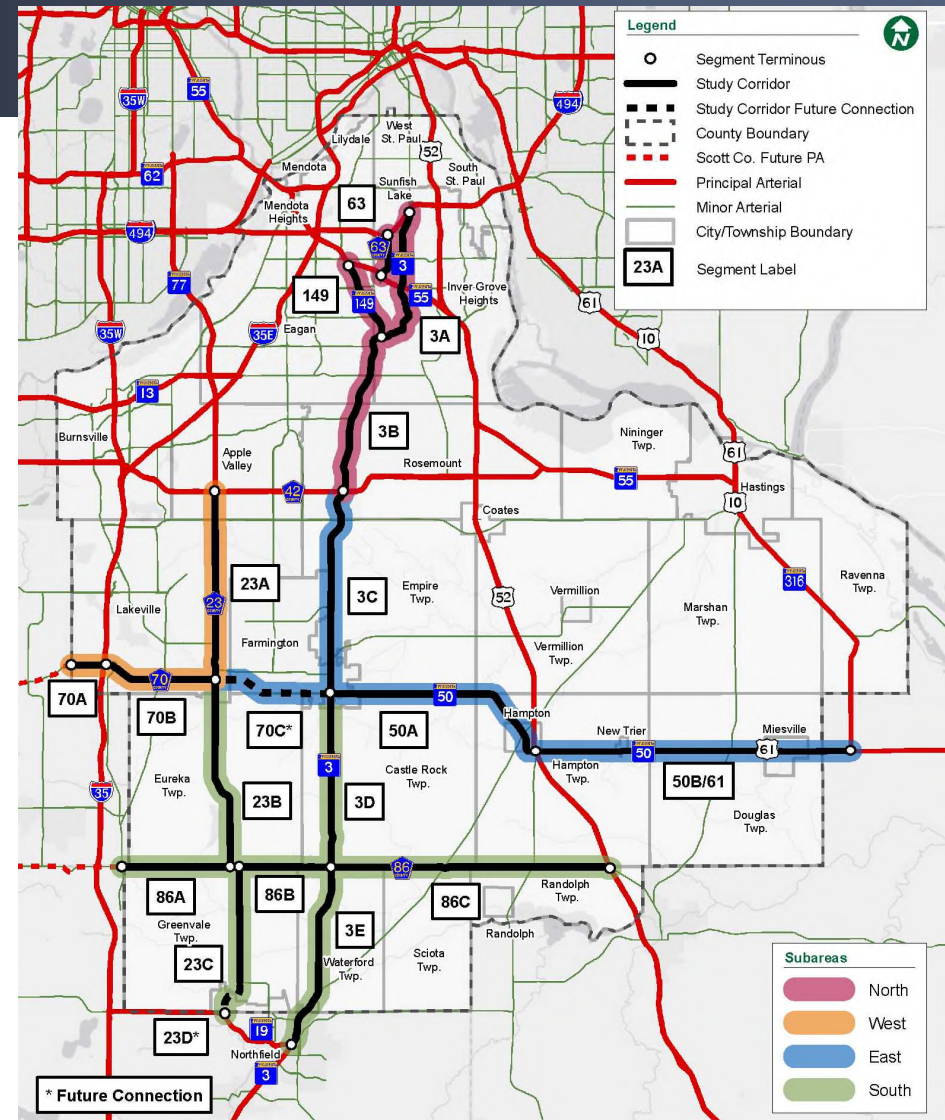
# What if we don't designate new PA segments in Dakota County?

- 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?

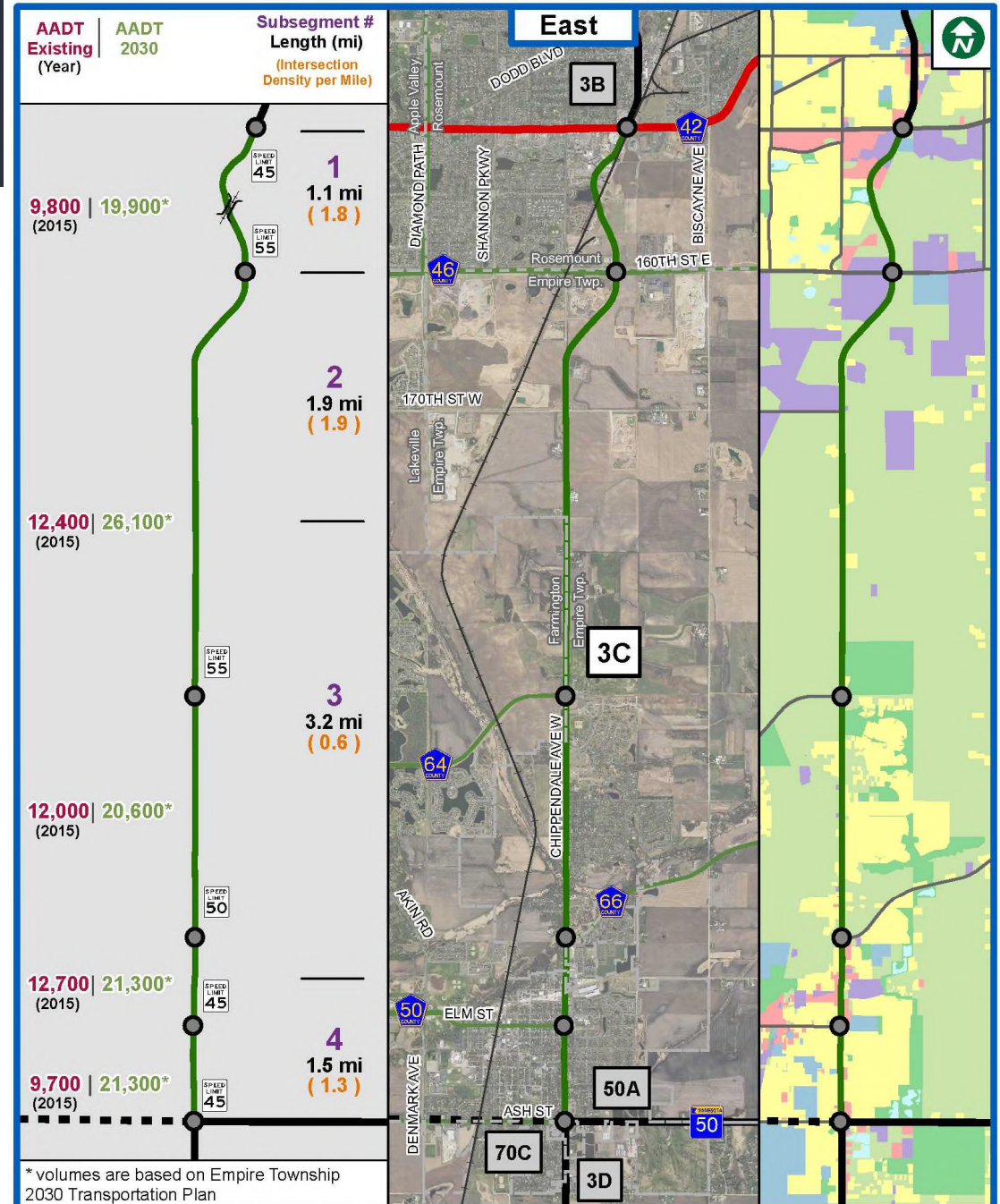
(See your handout)

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) <sup>A</sup>	3. System Connections	4. System Capacity Role <sup>B</sup>	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 <sup>C</sup>		✓	✓ 41,000	✓	✓	(Planned) <sup>F</sup>	5/5	✓	✓	✓	(Planned) <sup>F</sup>	✓✓	✓	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 <sup>D</sup>	Urban	✓	✓ 7,700		(Future Connection) <sup>F</sup>		4/5	✓		(Future Connection) <sup>F</sup>			1.6	
	3C		✓	✓ 26,100	✓	CH 31	✓	4/5	✓	✓	✓		✓	✓	5.6
	50A	Rural	✓	✓ 10,200	✓	CH 46	✓	4/5	✓		✓	na <sup>G</sup>	Hampton	✓	3.5
	50B/61		✓	✓ 4,800	✓	CH 46	✓	4/5		✓	✓	na <sup>G</sup>	New Trier, Mesville	✓✓	3.5
South	3D	Rural	✓	✓ 7,300		✓	✓	4/5	✓	✓		na <sup>G</sup>	✓✓	✓	4.5
	3E		✓	✓ 7,460	✓	✓	✓	5/5	✓	✓		na <sup>G</sup>	✓✓	✓	4.5
	23B		✓	✓ 12,000	✓	✓	✓	5/5		✓		na <sup>G</sup>	✓✓	✓	3.5
	23C		✓	✓ 5,400		✓		3/5		✓		na <sup>G</sup>	✓	✓	3.5
	23D <sup>D</sup>		✓	✓ 9,900	✓	(Future Connection) <sup>F</sup>		5/5	✓		(Future Connection) <sup>F</sup>			1.6	
	86A		✓	✓ 5,300		✓	✓	4/5		✓		na <sup>G</sup>	✓	✓	3.5
	86B		✓	✓ 11,000		✓	✓	4/5				na <sup>G</sup>	Castle Rock	✓	1.6
	86C		✓	✓ 4,800	✓	✓	✓	5/5		✓	✓	na <sup>G</sup>	✓✓	✓	4.5



# East Subarea: Hwy. 3C

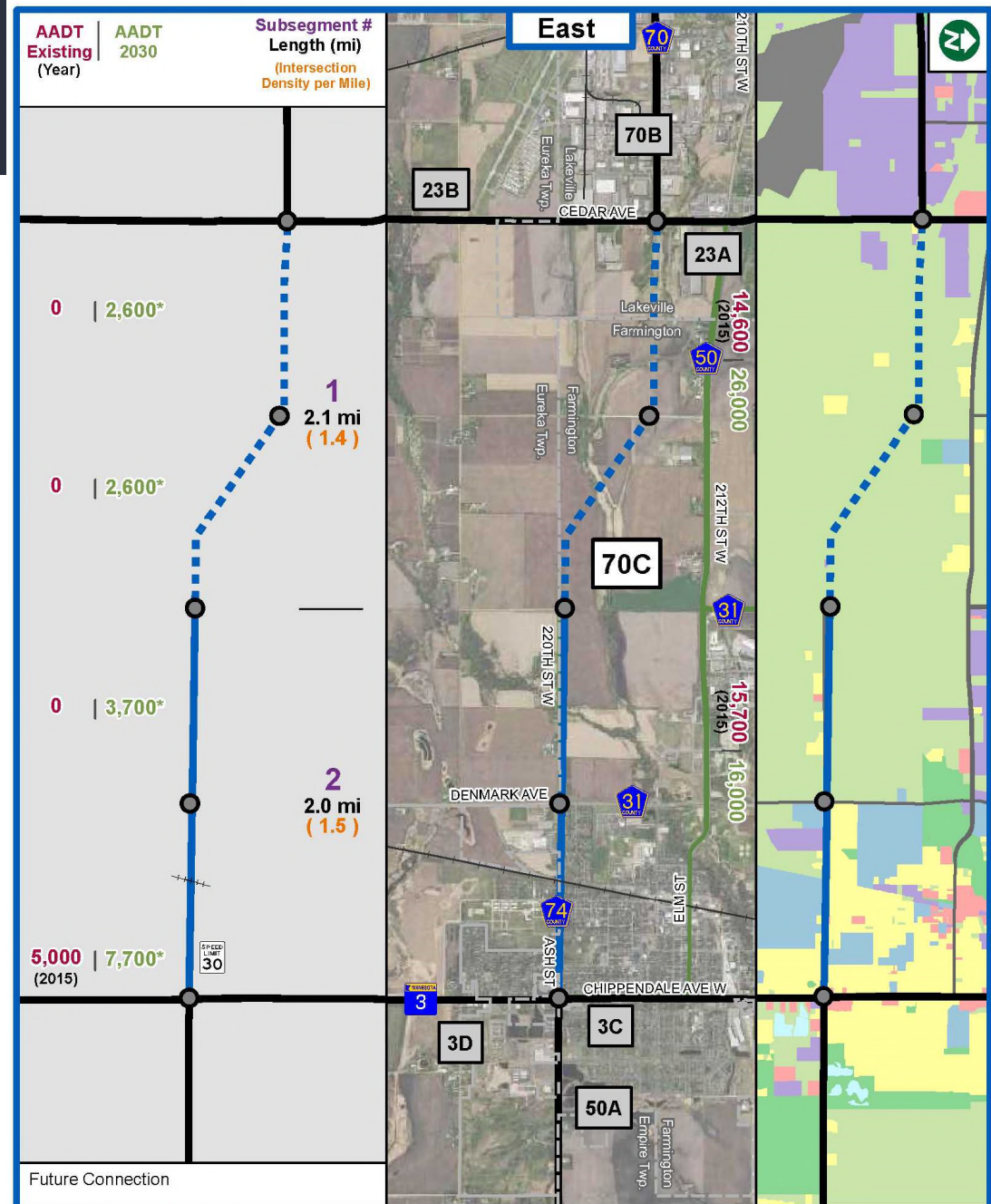
- Connects with a principal arterial - CH 42 to north
- Connects with high-capacity intersections
  - CH 46, Rosemount
  - TH 50, Farmington





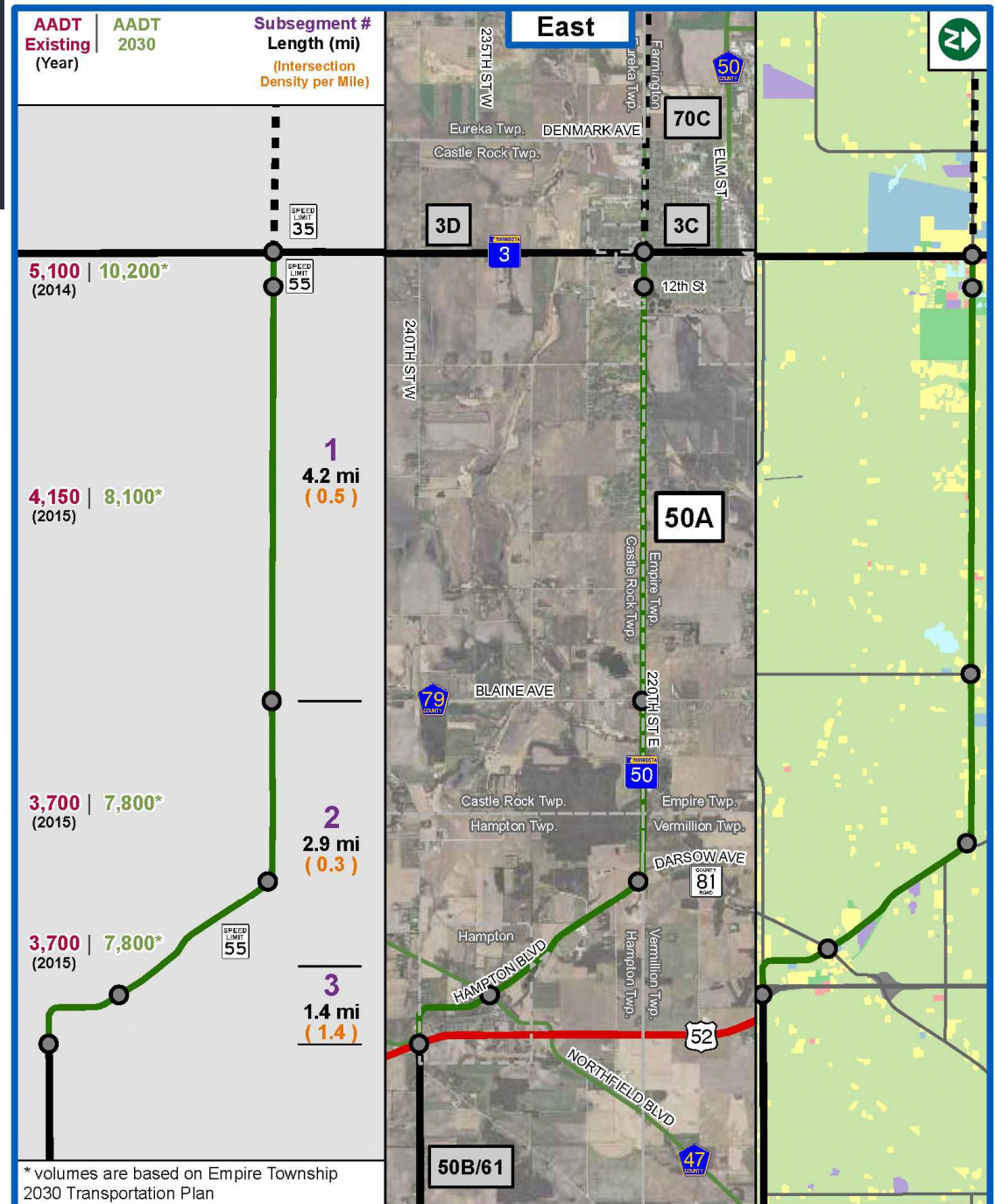
# East Subarea Hwy. 70C

- Future segment, planned to connect to I-35, CH 23, and TH 3
- Connects to Scott County to the west
- Near major commercial and industrial sites and the reliever airport to west (Lakeville)



# East Subarea Hwy. 50A

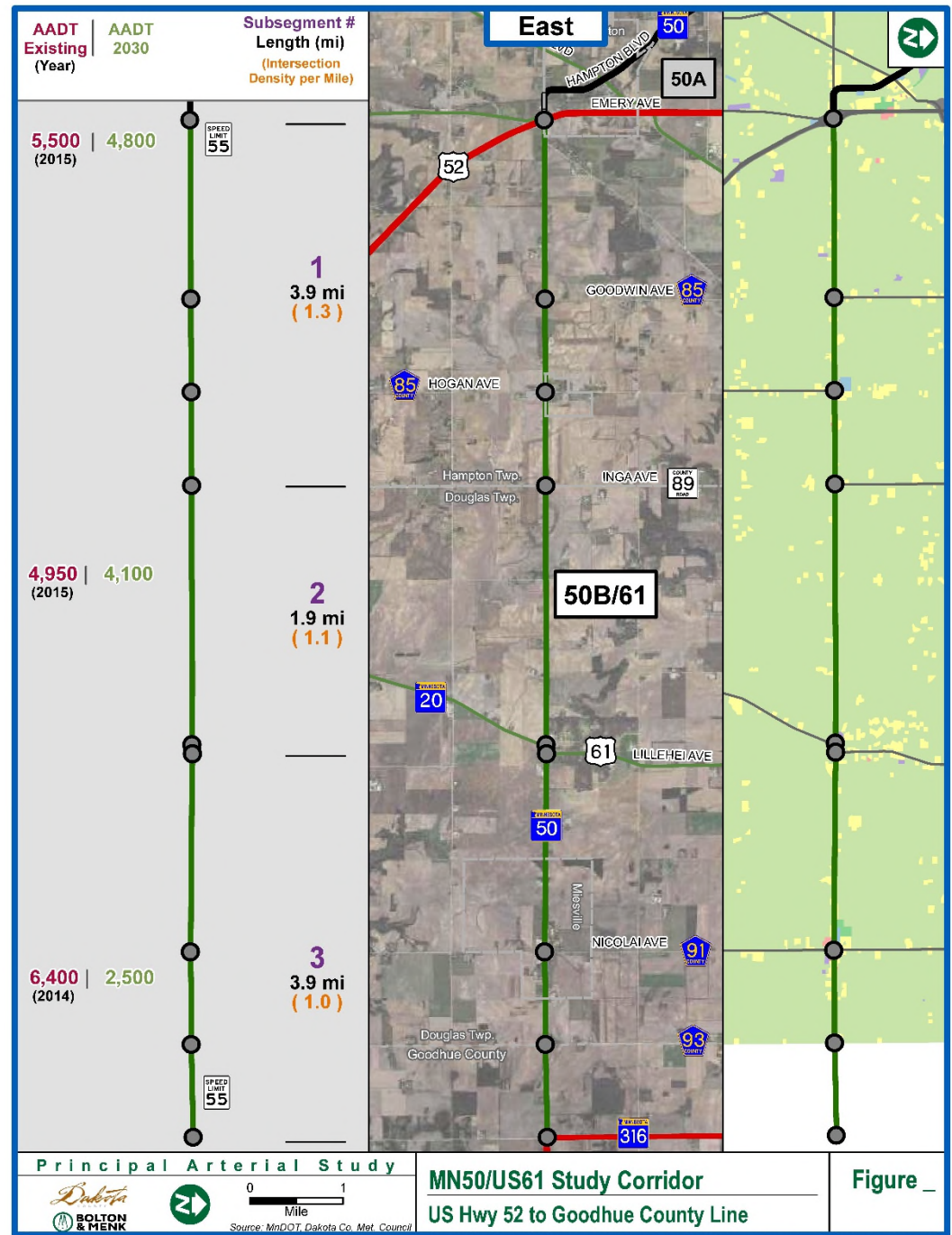
- Growth-area segment connects west to future CH 70 and I-35
- Connects to US 52 (existing PA) to the east
- Major commercial and industrial sites to the west (Lakeville)
- Space constraints in the City of Hampton





# East Subarea Hwy. 50B/61

- Connects to US 52 (existing PA) to the west
- Space constraints in New Trier, Miesville
- Connects to TH 316 and US 61 to east (existing PA route)
- Connection to Goodhue County



# 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

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



# Questions, Discussion