



Principal Arterial Study

West Subarea Meeting

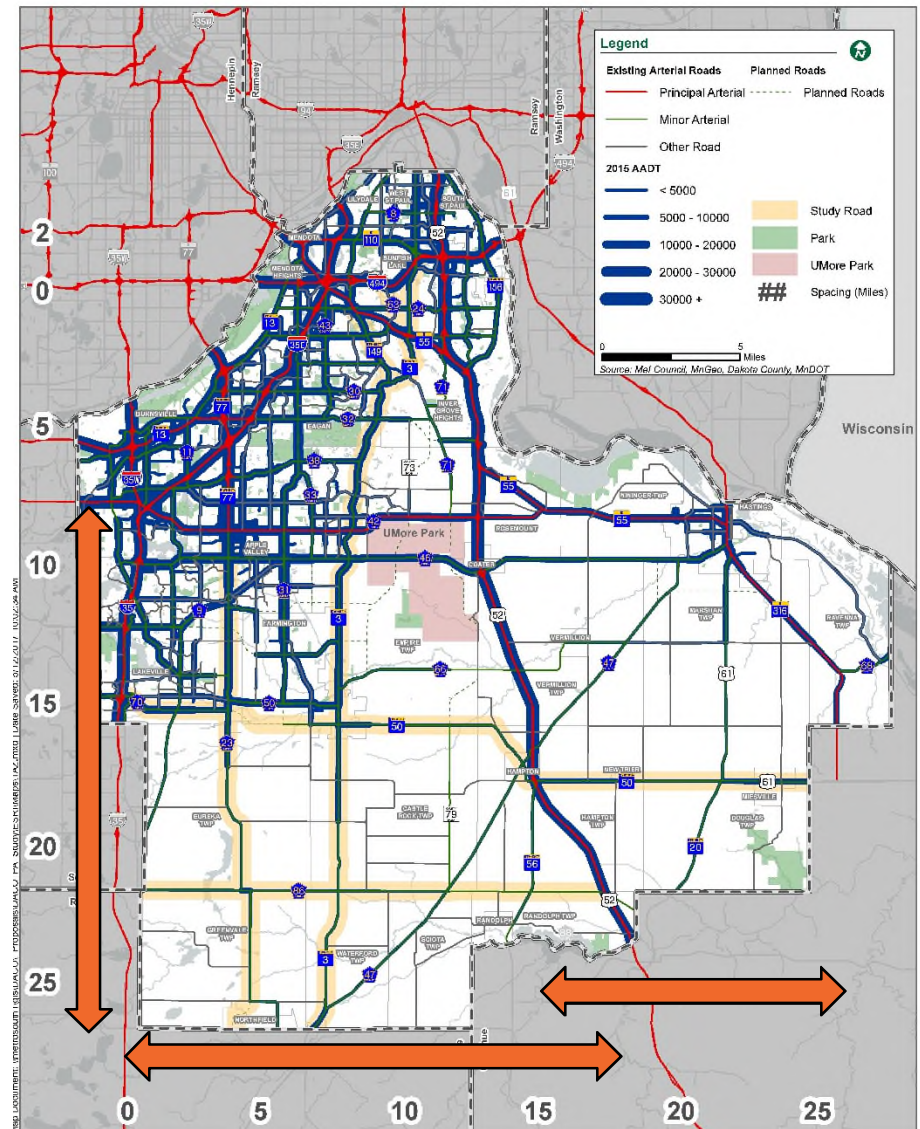
January 8, 2018

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

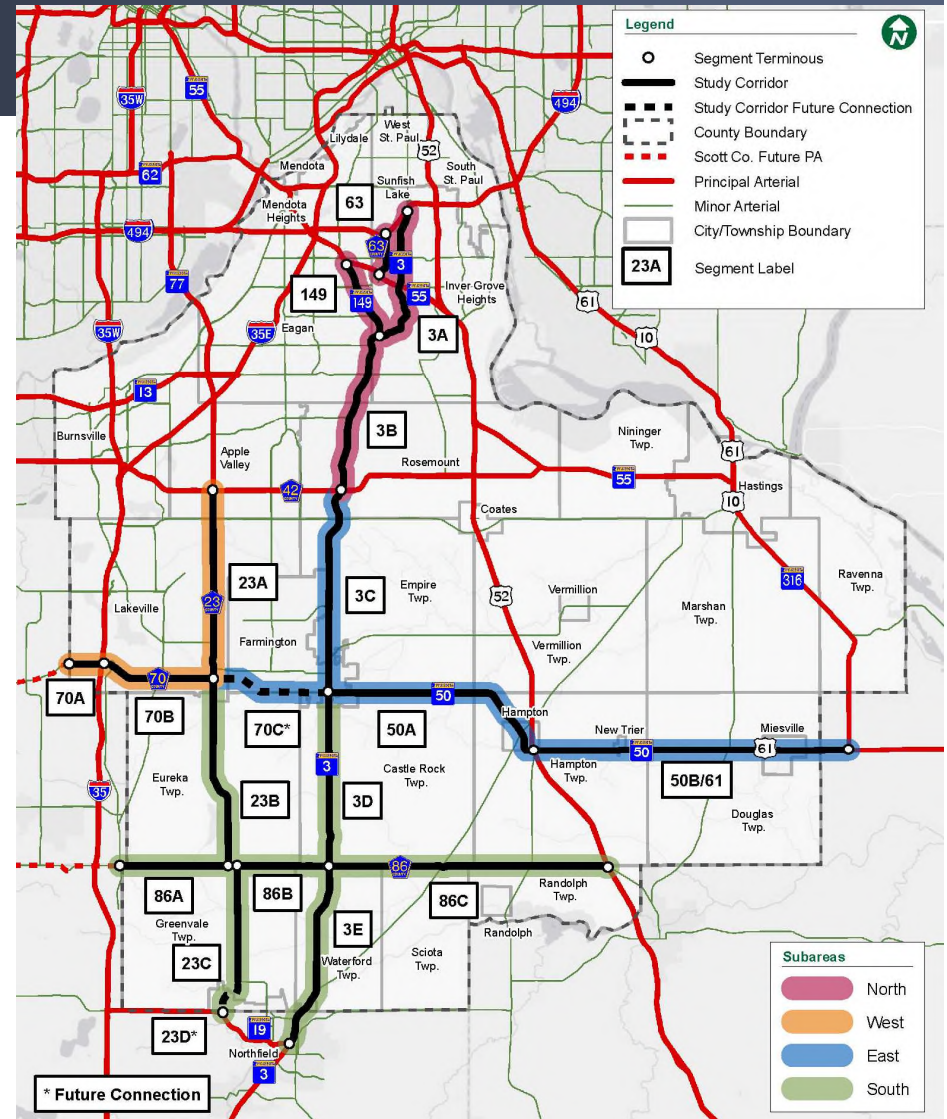


What if we don't designate new PA segments in Dakota County?

- 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
 - **West:** CH 23/Cedar Ave., CH 70
 - **East:** CH 70, MN 50, US 61
 - **North:** MN TH 3, MN 149, CH 63
 - **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

Access Management - Transitioning Arterial

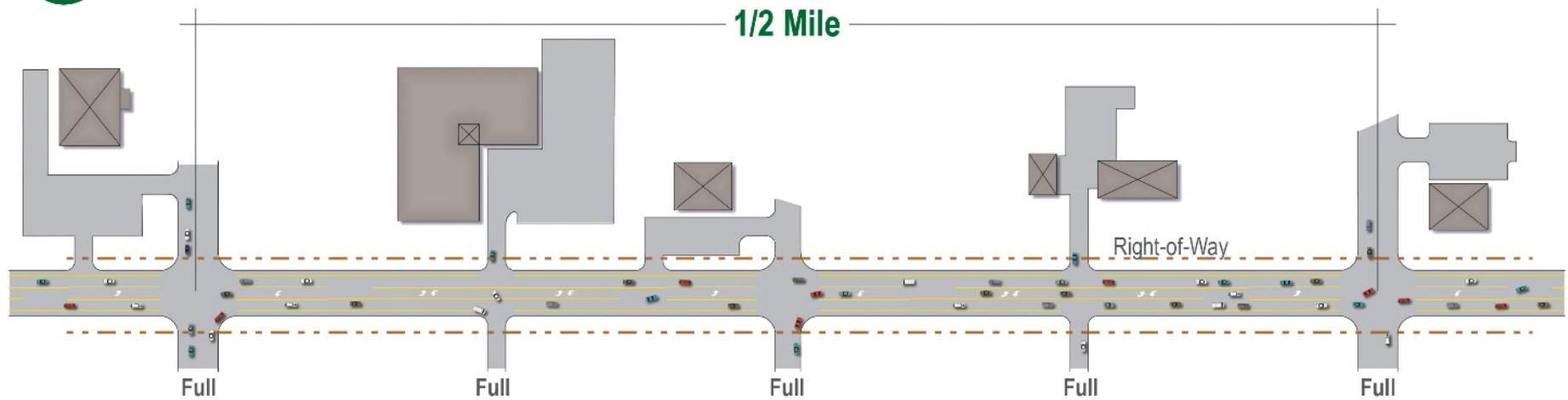
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TRANSITIONING ARTERIAL

Developing area; properties developed using driveways and minor intersections.

Meets 1/2-Mile Spacing Goal?

NO



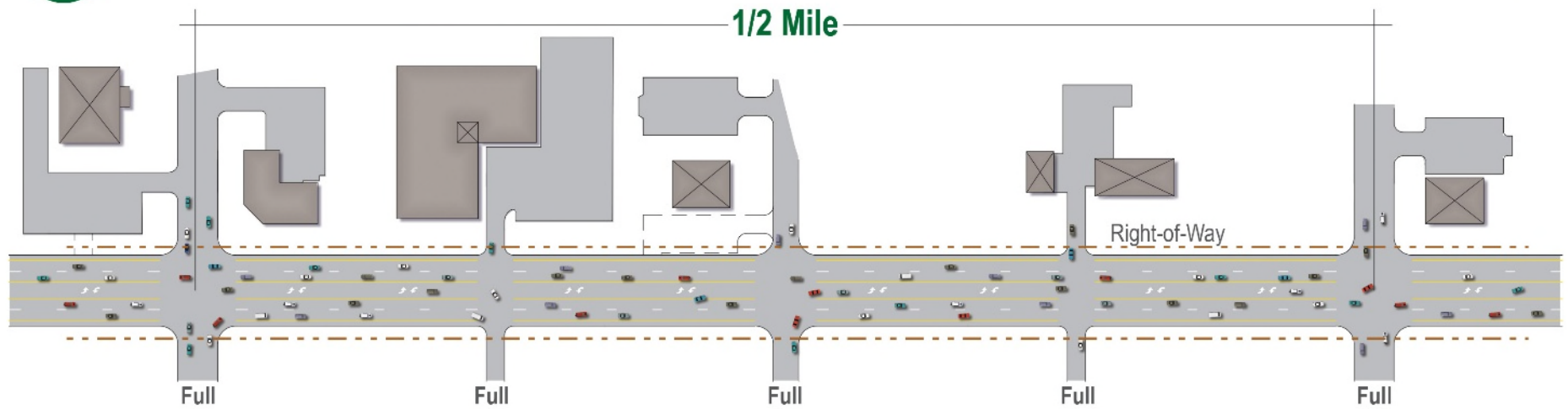
Access Management – Widened Arterial

2

WIDENED ARTERIAL

More development and traffic; minimal access management.

Meets 1/2-Mile Spacing Goal? **NO**



Access Management – Access-Managed Arterial

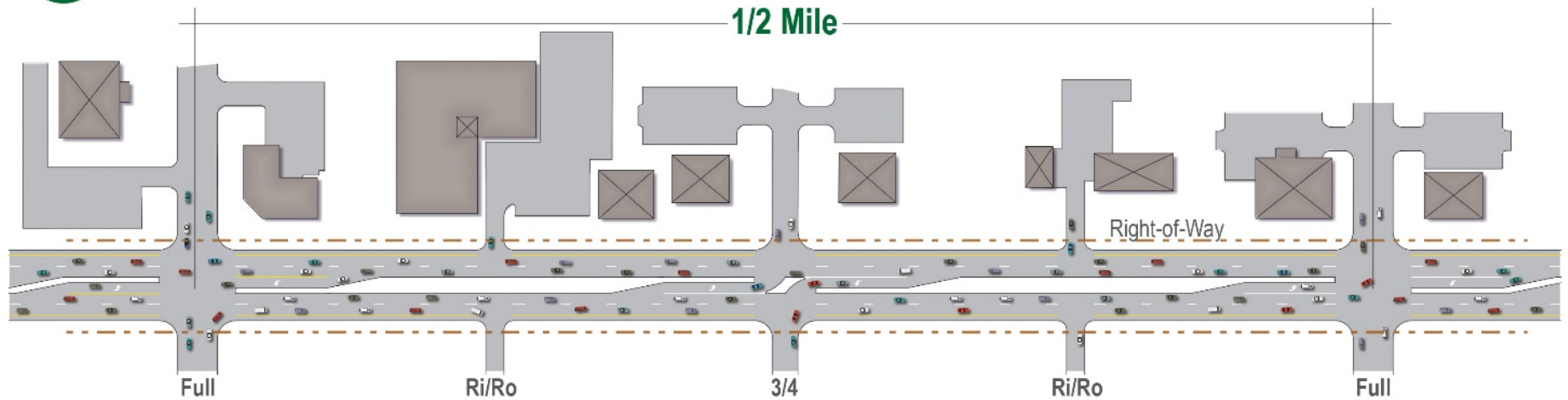
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ACCESS-MANAGED ARTERIAL

Improved access management; all property access is still from the arterial.

Meets 1/2-Mile Spacing Goal?

YES



Access Management – Arterial with Supporting Local Roads

4

ARTERIAL WITH SUPPORTING LOCAL ROADWAYS

Local street system supports property access and more complete arterial access management.

Meets 1/2-Mile Spacing Goal?

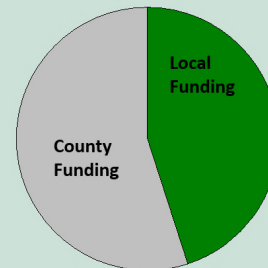
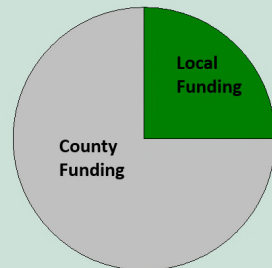
YES



City meets 1/2-mile spacing guidance or highway is designated as a PA

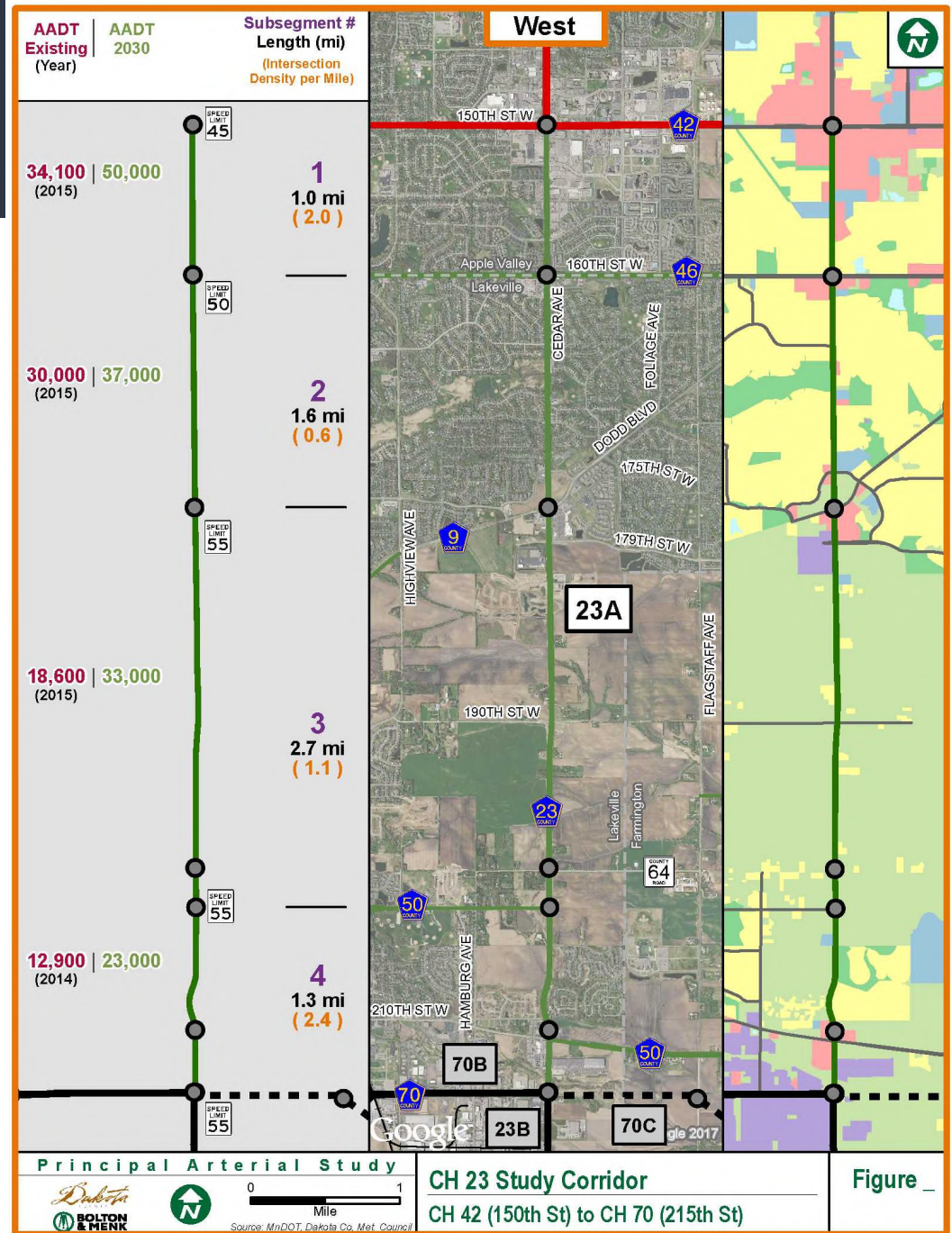


City does not meet 1/2-mile spacing guidance or highway not a PA



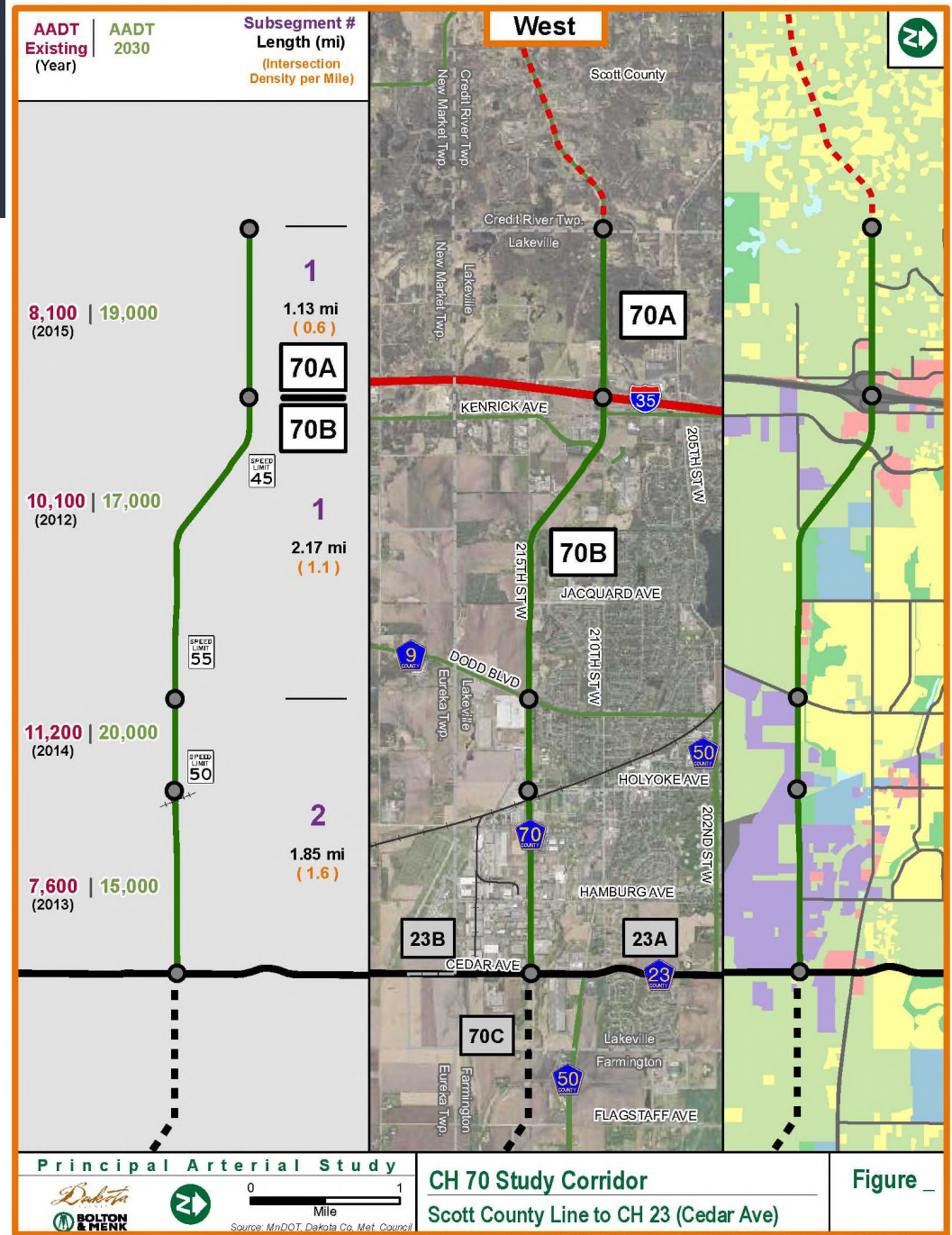
West Subarea Hwy. 23A

- PA connections (CH 23 and CH 42) at the north end and high-capacity CH 70 intersection at the south end.
- Segment now functions much like a PA, especially in the north.
- Will need to coordinate with possible PA designation on CH 70.



West Subarea Hwy. 70A/B

- PA connection to I-35 and to Scott County's planned Hwy. 8 extension (a possible future PA).
- Connects to growth-areas including commercial and industrial sites (e.g., Airlake Industrial Park) and supporting services (e.g., Airlake Airport).
- Future connection to the east using new corridor (70C, dashed line).



Questions, Discussion