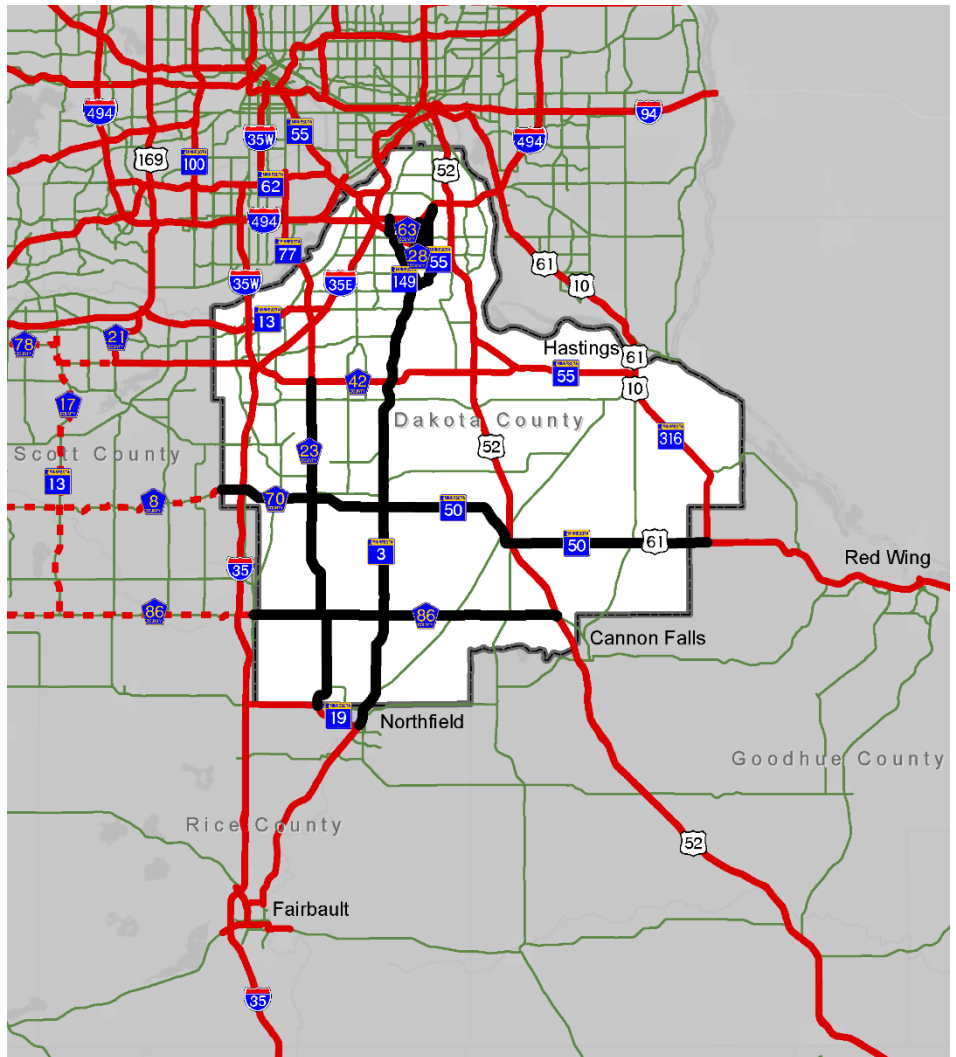


Dakota County

Principal Arterial Study

Description

This Final Report provides an Executive Summary, technical background information, and the results of the Study. The Study focused on planning and visioning for selected Dakota County highways, all of which are not freeways and are not intended to become freeways in the future. The main outcomes are priorities for near-term designation of selected segments as new Principal Arterial (PA) highways and identification of other segments as future PA highways, as guidance for long-term planning. The Study also provides guidance for next steps and serves as a reference for highway system project priorities and cost participation.




Final Report

June 2018

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Dakota County

Prepared by:
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Dakota
COUNTY
Principal Arterial Study
ACKNOWLEDGEMENTS

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Consultant Support

Technical support and staffing to complete the study, under contract with Dakota County, Minnesota, was led by Bolton & Menk, Inc.

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Final Report

Prepared by Bolton & Menk, Inc.

Contents

Executive Summary

1	<i>Introduction and Need for Study</i>	1
1.1	Dakota County Growth and Principal Arterial Spacing.....	1
1.2	Study Objectives.....	2
2	<i>Study Scope and Process</i>	3
2.1	Principal Arterial Characteristics	3
2.1.1	Review of Applicable Guidance – PA Characteristics.....	4
2.1.2	Key PA Characteristics Used for the Study	4
2.1.3	Additional Characteristics Observed for Dakota County Highways	4
2.2	Input from Regional and Local Partners	6
2.3	Study Segments and Dakota County Subareas	7
3	<i>Study Analysis and Results by Subarea</i>	7
3.1	North Subarea	7
3.1.1	Observations and Input Received.....	7
3.1.2	Conclusions and Recommendations for the North Subarea.....	8
3.2	West Subarea	8
3.2.1	Observations and Input Received.....	8
3.2.2	Conclusions and Recommendations for the West Subarea.....	9
3.2.3	West Subarea Functional Class Change Recommendation and Process	9
3.3	East Subarea	10
3.3.1	Observations and Input Received.....	10
3.3.2	Conclusions and Recommendations for the East Subarea	11
3.4	South Subarea	11
3.4.1	Observations and Input Received.....	11
3.4.2	Conclusions and Recommendations for the South Subarea.....	12
4	<i>Study Conclusions and Next Steps</i>	12
4.1	Near-Term PA Segment Designations.....	12
4.2	Management of Future PA Highways; Benefits	13
4.2.1	Arterial Access Management, Local Planning, and PA Cost Participation	13
4.2.2	Arterial Access Management in Growing Communities	14
4.2.3	Study Benefits for Regional and Local Planning.....	15
4.2.4	Review of Dakota County’s Next Steps.....	16

Tables (on or following page reference)		Page Reference
Table 1	Characteristics to Consider for Future Principal Arterial Designation	5
Table 2	Framework for Analysis of Highway Segments	6
Table 3	Subarea and Segment Analysis Summary by Principal Arterial Key Characteristics	7

Figures (on or following page reference)		Page Reference
Figure ES-1	Arterial System & Corridor Volumes	ES-2
Figure ES-2	Study Conclusions & Recommendations.....	ES-3
Figure ES-3	Summary of Next Steps.....	ES-4
Figure 1	2010-2040 Household Growth.....	1
Figure 2	Study Corridors and Area Highway System.....	2
Figure 3	Arterial System and Corridor Volumes.....	2
Figure 4	Existing Principal Arterials, Study Corridors, and System Spacing	2
Figure 5	Freight Network Overview	4
Figure 6	Corridor Segments and Subareas.....	7
Figure 7	Study Conclusions and Recommendations	7
Figure 8	Summary of Next Steps.....	13
Figure 9	Current Cost Participation Policy and Local Share	14
Figure 10	Example of Arterial Access Management Progression.....	15

Appendix

A. Highway Segment Data and Detailed Maps (see index on the appendix cover page)

List of Acronyms

AADT	Annual Average Daily Traffic
CH	County Highway
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
MN	Minnesota Highway
MnDOT	Minnesota Department of Transportation
PA	Principal Arterial
SMT	Study Management Team
TPP	Transportation Policy Plan
US	US Highway
VMT	Vehicle Miles Traveled

Executive Summary

The transportation system of Dakota County, Minnesota, is built around a framework of Principal Arterial (PA) highways, which are well established to the north – for example, the major river crossings (I-35W, I-35E, I-494, US 52, US 61, MN 77, and MN 55). However, possible gaps in the PA system are apparent to the south and east. **Figure ES-1** illustrates this, showing which highways are existing principal arterials (red lines) with relative 2015 daily traffic volumes on all highways (line weights).

Designated PA highways include freeways and other highways planned and managed to provide time-efficient and safe travel over long distances for many motorists. These “backbone” highways emphasize mobility over access. PA highways help connect the region with the other areas in the state, carry the major portion of trips to/from activity centers, and serve the majority of through movements.

The Dakota County PA Study focused on planning for selected highways, all of which are not freeways and are not intended to become freeways in the future. The key outcomes are priorities for near-term designation of new PA segments and identification of other segments as recommended future PA highways.

The Study focused on planning for selected highways, all of which are not freeways and are not intended to become freeways in the future. The Study provides priorities and recommendations for future principal arterial (PA) highways.

Need for the Study

Dakota County Growth and Principal Arterial Spacing

Dakota County’s highway system has been established to follow the area’s growth and development, which continues. US Census data and State Demographer forecasts indicate the County gained 42,648 residents from 2000 to 2010 (a 12 percent increase). The County’s population, at 398,552 persons in 2010, is expected to exceed 500,000 persons by 2035.

Technical guidance for spacing of PA highways encourages a network spaced logically within the region:

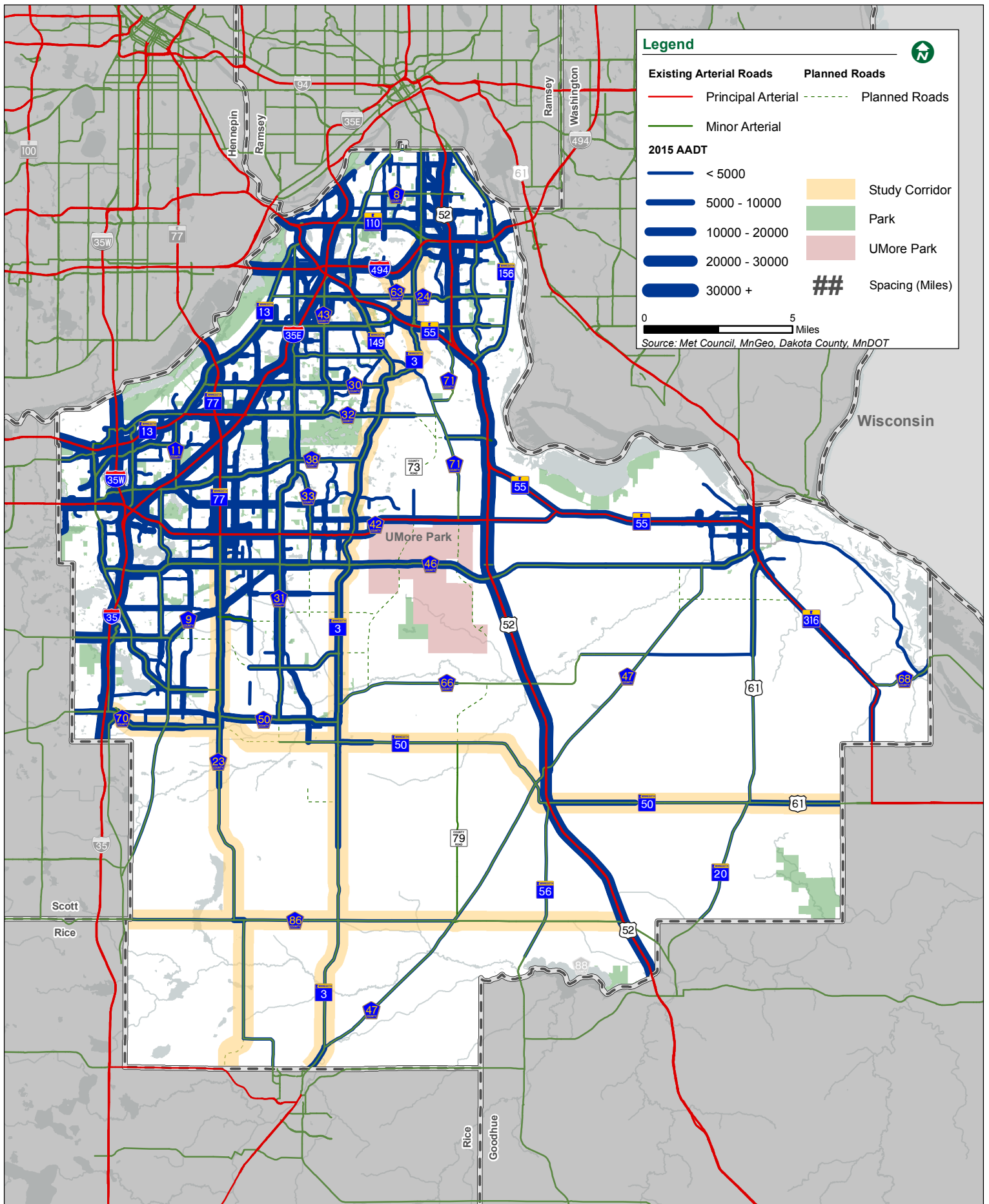
- 2-6 miles apart in developed suburban growth areas
- 6-12 miles apart in rural areas

With reference to Figure ES-1, Dakota County’s existing system includes no east-west PA highways south of County Highway (CH) 42, a distance of about 20 miles. Similarly, the gaps between north-south PAs include 15-20 miles from I-35 to US 52 and about 10 miles from US 52 to MN 316. The PA Study looked at the importance of selected highways based on their potential to fit applicable guidance; specifically:

- County Highway 63 (Argenta Trail)
- MN Highway 3
- MN Highway 149
- County Highway 28 (Yankee Doodle Rd.)
- County Highway 23 (Cedar Ave.)
- County Highway 70
- MN Highway 50
- County Highway 86

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Principal Arterial Study

Principal Arterial Corridor Volumes

Figure ES-1



0 5 Miles
Source: MnDOT, Dakota Co, Met. Council

These corridors, highlighted on Figure ES-1, were identified by Dakota County as the best candidates for future PA designation. All of them exhibit good north-south or east-west continuity and provide connections to important destinations. A one-mile segment of CH 28 (Yankee Doodle Road) was also identified as a possible connection in a future PA system based on its links to CH 63 and MN 149.

Study Objectives

The Study's primary objectives were to evaluate how the above-noted highways are used and the features they exhibit compared with PA highway characteristics. Other objectives included documenting context for the highways and providing guidance to help Dakota County and its partners plan for both regional and local highway system priorities.

The intent of the study was not to identify corridors that require major infrastructure investment or to prioritize improvement needs, but to identify corridors that will be required to provide a PA function for the public either now or in the future. This will allow Dakota County, MnDOT, and the cities to plan for and manage the corridors and supporting road network over time and make appropriate investment to support the PA function at the time they are needed.

Importantly, the Study does not complete a formal decision-making process for designation of new PA highway segments. But it does provide supporting data and guidance on next steps, including identification of a few segments proposed for near-term PA designation (in the coming months or few years). The Study may also serve as a reference for future discussions of highway jurisdictional roles—county vs. state highways.

The Study does not complete a formal decision-making process for designation of new PA highway segments. But it does identify a few segments proposed for near-term PA designation (in the coming months or years).

While setting priorities for highway system funding was also not a primary objective, designated PA highways have greater potential for National Highway System (NHS) preservation funding and for other federal and state funding programs.

Study Scope, Process, and Partners

All highways addressed in the Study provide continuity over long distances, serving many trips, commuters, and population or employment destinations. Initially, dozens of parameters were considered based on FHWA, MnDOT, Metropolitan Council, and Dakota County guidance. But certain characteristics were found to be most relevant in building the Study's technical framework:

- **Decision characteristics: Does the highway function like a PA?** Decision characteristics concern the suitability of corridors to be future PA highways. The key decision characteristics included system spacing, traffic volumes, system connectivity, capacity role in system, and role in carrying freight.
- **Timing characteristics: Is the highway ready to be a PA?** Timing characteristics are those affecting the "readiness" of the corridor and often provide a basis for additional corridor planning. The key timing characteristics included access spacing, posted speed, high-capacity intersections, transit (in urban areas), right-of-way, and absence of parking.

Dakota County invited and encouraged participation from a full range of relevant partners, specifically:

- MnDOT
- Metropolitan Council
- Dakota County
- Scott County
- Cities of Apple Valley, Eagan, Farmington, Inver Grove Heights, Lakeville, and Rosemount
- Representatives of the County’s 13 townships and rural centers (under 5,000 residents each)

Representatives of these agencies participated in periodic **Study Management Team (SMT) meetings**. The same agencies, as well as other invited stakeholders, were also involved in a series of four subarea outreach meetings, which were held from late November 2017 into January 2018.

Study Results and Conclusions/Recommendations

Figure ES-2 presents the PA Study’s overall conclusions and recommendations. The information below briefly notes how Study conclusions and recommendations were reached, including consideration of input from outreach meetings. More details are provided in the full Final Report A.

North Subarea – Eagan, Inver Grove Heights, and Rosemount MN 149, CH 63, CH 28, and MN 3

This is a developed urban part of Dakota County and exhibits some of the highest traffic volumes observed on PA Study highways. Discussions of this area noted close spacing between MN 149, CH 63 (a planned new connection to I-494), and close spacing for MN 3 to the north and constraints from development on MN 3 in downtown Rosemount. Considering these and other unique characteristics, a one-mile segment of CH 28 connecting CH 63 and MN 149 was added to the Study.

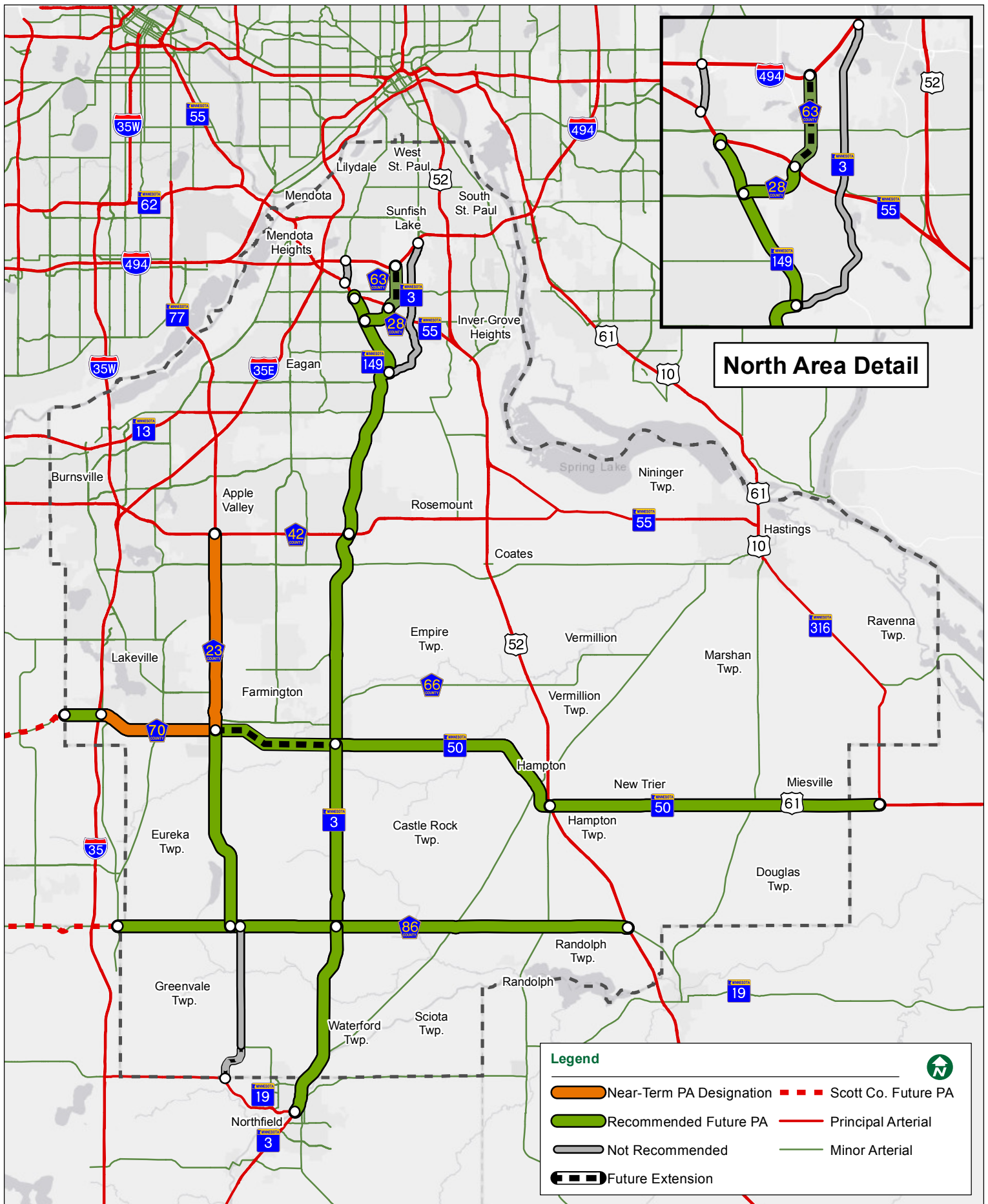
Conclusions. *Because of close spacing and roles in serving future traffic, the northern-most segments of MN 149 and MN 3 are not recommended as future PA highways. All other segments in the North Subarea are recommended as future PA highway routes, but not for near-term designation. CH 63 is noteworthy in the Study as a special case because it is a planned, partially completed, new corridor with right-of-way reserved for a future access-managed arterial connecting to I-494.*

West Subarea – Apple Valley and Lakeville CH 23 and CH 70

Like the North, the West Subarea is mostly developed and exhibits some of the highest traffic volumes observed on PA Study highways. Discussions for this area focused on the current and future roles of CH 23 (north-south) and CH 70 (east-west), including the proposed future eastward extension of CH 70 to Farmington and to MN 50 and US 61 (see more below in the East Subarea section).

Conclusions. *The Study found that CH 23 and CH 70 exhibit regional importance now and in the future; additionally, these links have available rights-of-way, good access spacing/management, and high posted speeds. The two segments, which connect to each other and to I-35 on the west, are recommended for near-term designation as PA highways (Figure ES-2). In the coming months or few years, Dakota County will work with the two cities, as well as the Metropolitan Council and MnDOT, to officially determine a functional classification change. The one other segment in the West Subarea (CH 70 west of I-35) is recommended as a future PA highway route, but not for near-term designation.*

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Principal Arterial Study



0 5 Miles
Source: MnDOT, Dakota Co, Met. Council

Study Conclusions & Recommendations

Figure ES-2

East Subarea – Farmington, Hampton, and Rural Townships to East CH 70 (Future Connection), MN 3, MN 50, and US 61

The East Subarea has important connections to the North and West Subareas via MN 3 and the future connection to CH 70. Transitional land use is an important characteristic, with both urban and rural areas observed. As noted for the West Subarea above, the future regional importance of the CH 70 – CH 50 - MN 50 - US 61 corridor is also a consideration to the east. The Study noted the need to manage highway access and mobility through the small but growing communities to the east – Hampton, New Trier, and Miesville.

***Conclusions.** The East Subarea’s highway segments reflect PA characteristics and all are recommended as future PA highway routes, but not for near-term designation. As noted for both the West and East Subareas, the regional importance of this multi-jurisdictional corridor for future mobility, and planning for future demands, should be considered in future studies.*

South Subarea – Southern Lakeville/Farmington and Rural Townships to South CH 23, MN 3, and CH 86

The South Subarea is rural, but includes future growth areas. With few local traffic generators, the highways in the South are often used for through trips and provide important connections to jobs and commerce. The system issues for this subarea include connectivity to the north, to I-35, to Northfield, and to Rochester via US 52, an existing PA. Discussions of this subarea noted that CH 86 has some limited rights-of-way and no interchange with I-35. The close spacing of parallel segments of MN 3 and CH 23 was also noted.

***Conclusions.** The segments in the South Subarea typically fit the characteristics of PA highways. However, the spacing is close between the southern-most portions of CH 23 and MN 3, and relative importance in connecting to Northfield is an issue as noted above. Therefore, MN 3 is recommended as a future PA segment connecting to Northfield; CH 23 south of CH 86 is not recommended as a future PA. All other segments of CH 23, MN 3, and CH 86 are recommended as future PA highway routes, but not for near-term designation based on timing/readiness issues.*

Next Steps

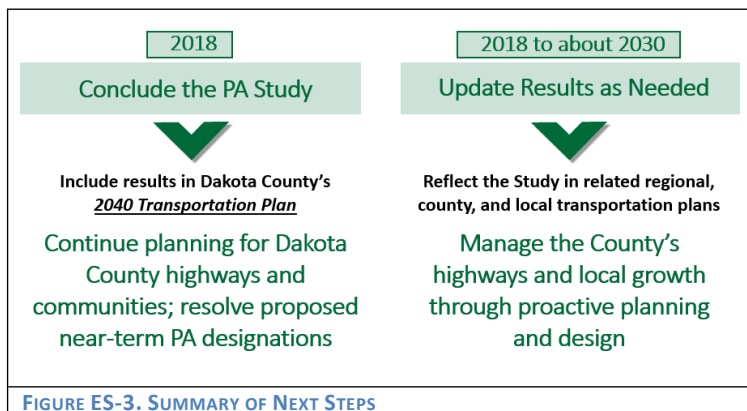


FIGURE ES-3. SUMMARY OF NEXT STEPS

The Dakota County PA Study concludes with the above-noted conclusions and recommendations, including the proposed near-term official designation of CH 70 east of I-35 and CH 23 north of CH 70 as PA highways (West Subarea). **Figure ES-3** summarizes next steps, which will include noting recommendations in the County’s 2040 Transportation Plan. The proposed near-

term designations will be formally addressed in the coming months or years with the Metropolitan Council and MnDOT. This Study’s results, which include several recommendations to manage all of the recommended future PA highways, will be updated periodically and reflected in transportation plans.

1 Introduction and Need for Study

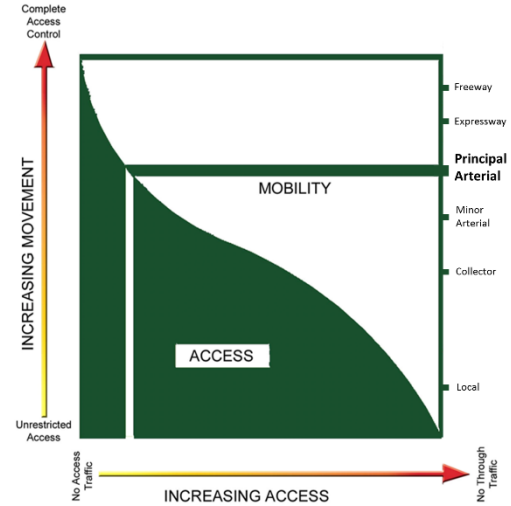
The transportation system of Dakota County, Minnesota, is built around a framework of Principal Arterial (PA) highways, which are well established to the north – for example, the major river crossings (I-35W, I-35E, I-494, US 52, US 61, MN 77, and MN 55).

However, possible gaps in the PA system are apparent to the south and east.

Designated PA highways include freeways and other highways planned and managed to provide time-efficient and safe travel over long distances for many motorists. These “backbone” highways emphasize mobility over access, as illustrated in the chart noting functional classifications.

In the functional classification framework, PA highways:

- Connect the region with the other areas in the state or connect metro centers to regional business concentrations (Dakota County, 2012; 2030 *Transportation Plan*).
- Carry 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*).



The Dakota County PA Study addressed the need to establish sustainable and locally supported visions along corridors which could be candidates for designation as new PA highways. The Study focused on planning for selected highways, all of which are not freeways and are not intended to become freeways in the future. The key outcomes are priorities for near-term designation of new PA segments and identification of other segments as recommended future PA highways.

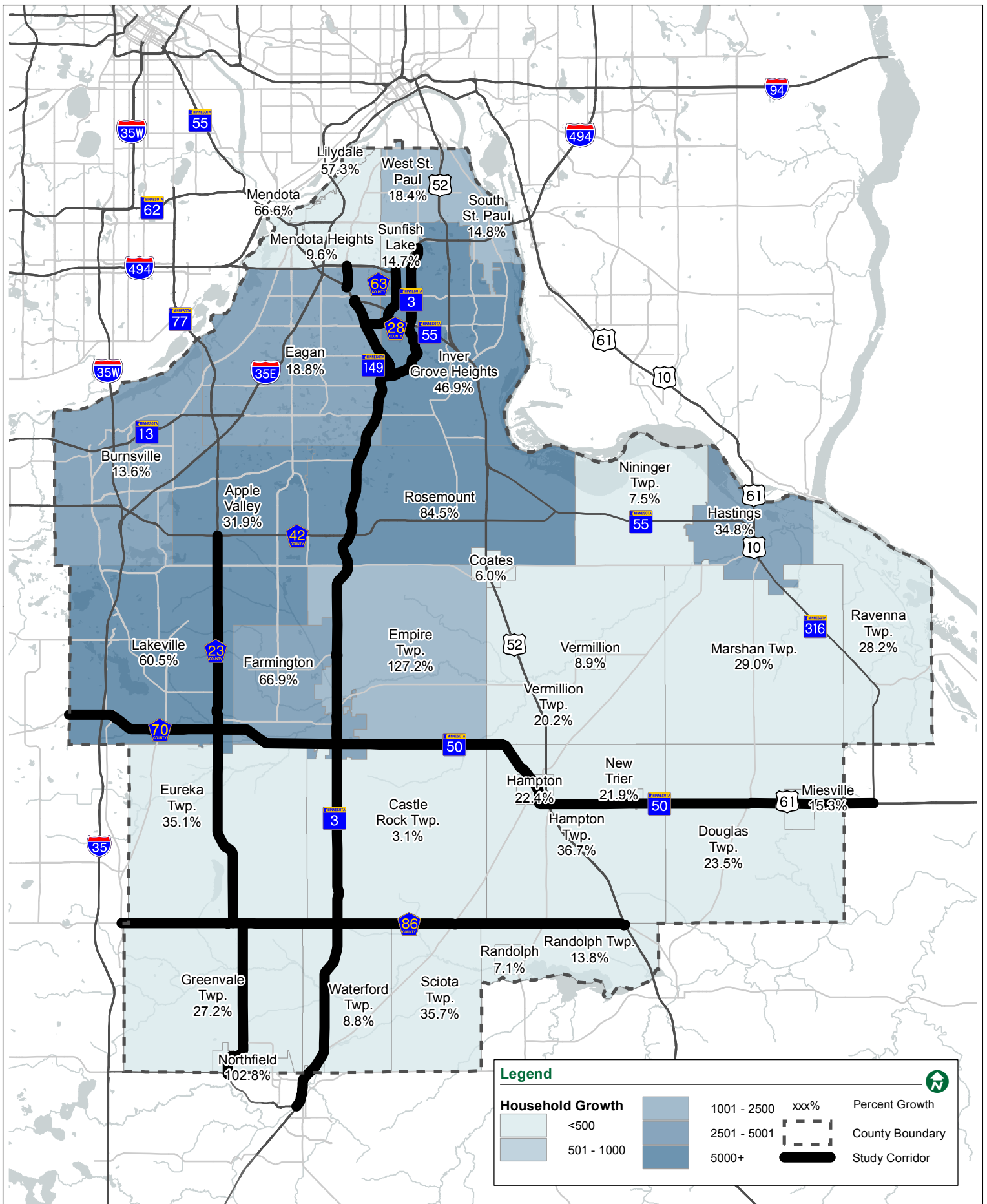
The Study focused on planning for selected highways, all of which are not freeways and are not intended to become freeways in the future. The Study provides priorities and recommendations for future principal arterial (PA) highways.

1.1 Dakota County Growth and Principal Arterial Spacing

Dakota County’s highway system has been established to follow the area’s growth and development. **Figure 1** illustrates this growth pattern, both historically (since 2010) and forecasted. Not surprisingly, the County’s greatest levels of growth are seen within the major suburbs, with moderate growth occurring in townships to the south and east. Forecasts indicate that strong growth will continue, even without proactive efforts to review the highway network. US Census data and State Demographer forecasts indicate the County gained 42,648 residents from 2000 to 2010 (a 12 percent increase). The County’s population, at 398,552 persons in 2010, is expected to exceed 500,000 persons by 2035.

The County’s historic and forecasted population growth rate exceeds one percent per year and is also reflected in increased employment, economic activity, and travel demand. As Dakota County grows, the

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Legend

	<500		1001 - 2500	xxx%	Percent Growth
	501 - 1000		2501 - 5001		County Boundary
			5000+		Study Corridor

Principal Arterial Study

2010-2040 Household Growth

Figure 1



0 5 Miles
Source: Met Council, Dakota County



highway network should be planned to provide for efficient and safe trips. **Figure 2** provides a regional perspective, showing Dakota County's position in the region relative to other existing PA highways and future PA highways identified by Scott County. Figure 2 also emphasizes the study corridors selected for analysis in the PA Study, based on system spacing and other observations. The eight "study corridor" highways show are:

- County Highway 63 (Argenta Trail)
- MN Highway 3
- MN Highway 149
- County Highway 28 (Yankee Doodle Rd.)
- County Highway 23 (Cedar Ave.)
- County Highway 70
- MN Highway 50 / US 61
- County Highway 86

These corridors were identified by Dakota County as the best candidates for possible PA designation considering travel patterns, the service to destinations provided by each route, and desirable highway system spacing. **Figure 3** illustrates the current travel demand pattern, including existing principal arterials (red lines) with relative 2015 daily traffic volumes on all highways (line weights).

Technical guidance for spacing of PA highways encourages a network spaced logically within the region:

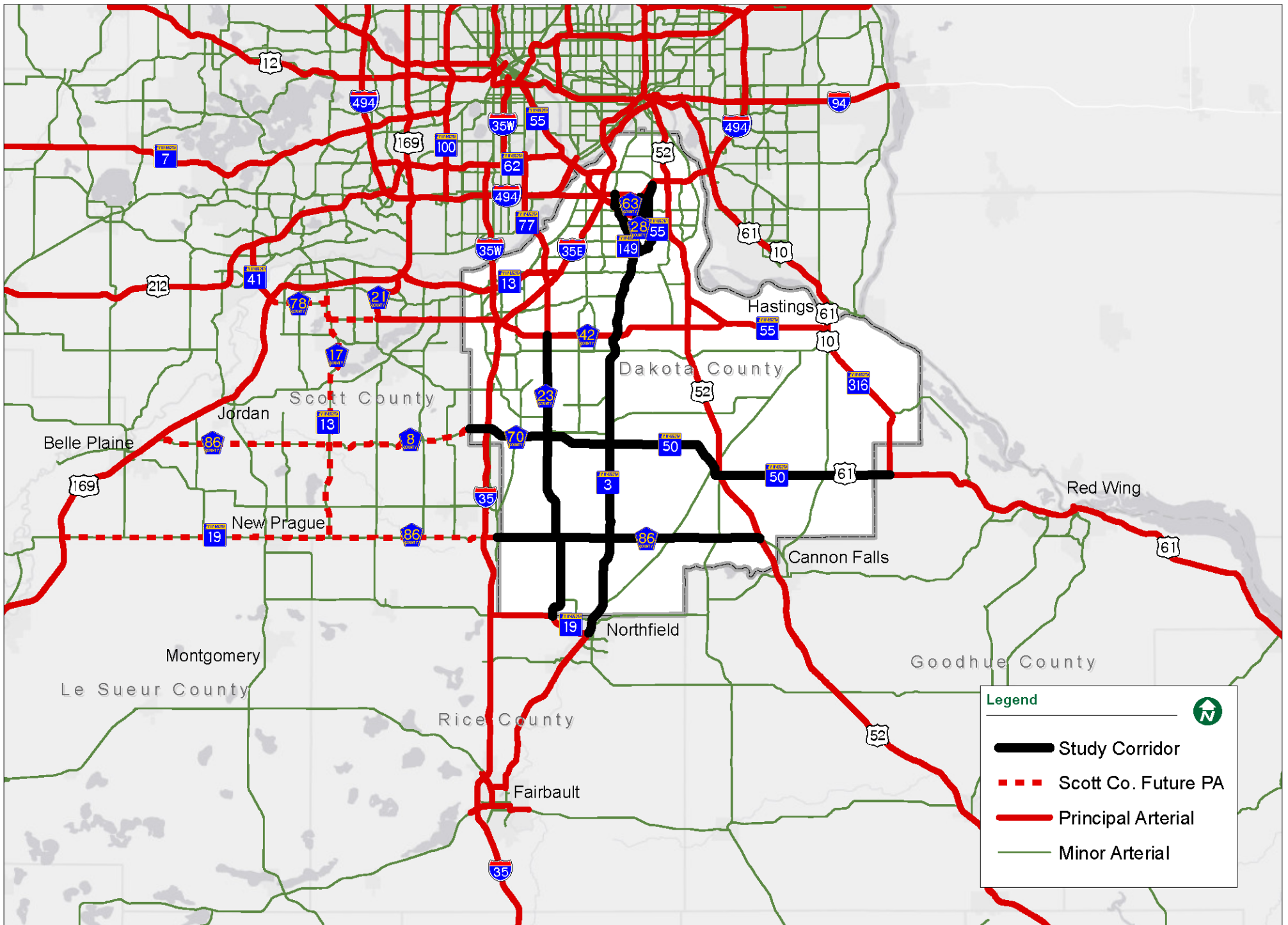
- 2-6 miles apart in developed suburban growth areas
- 6-12 miles apart in rural areas

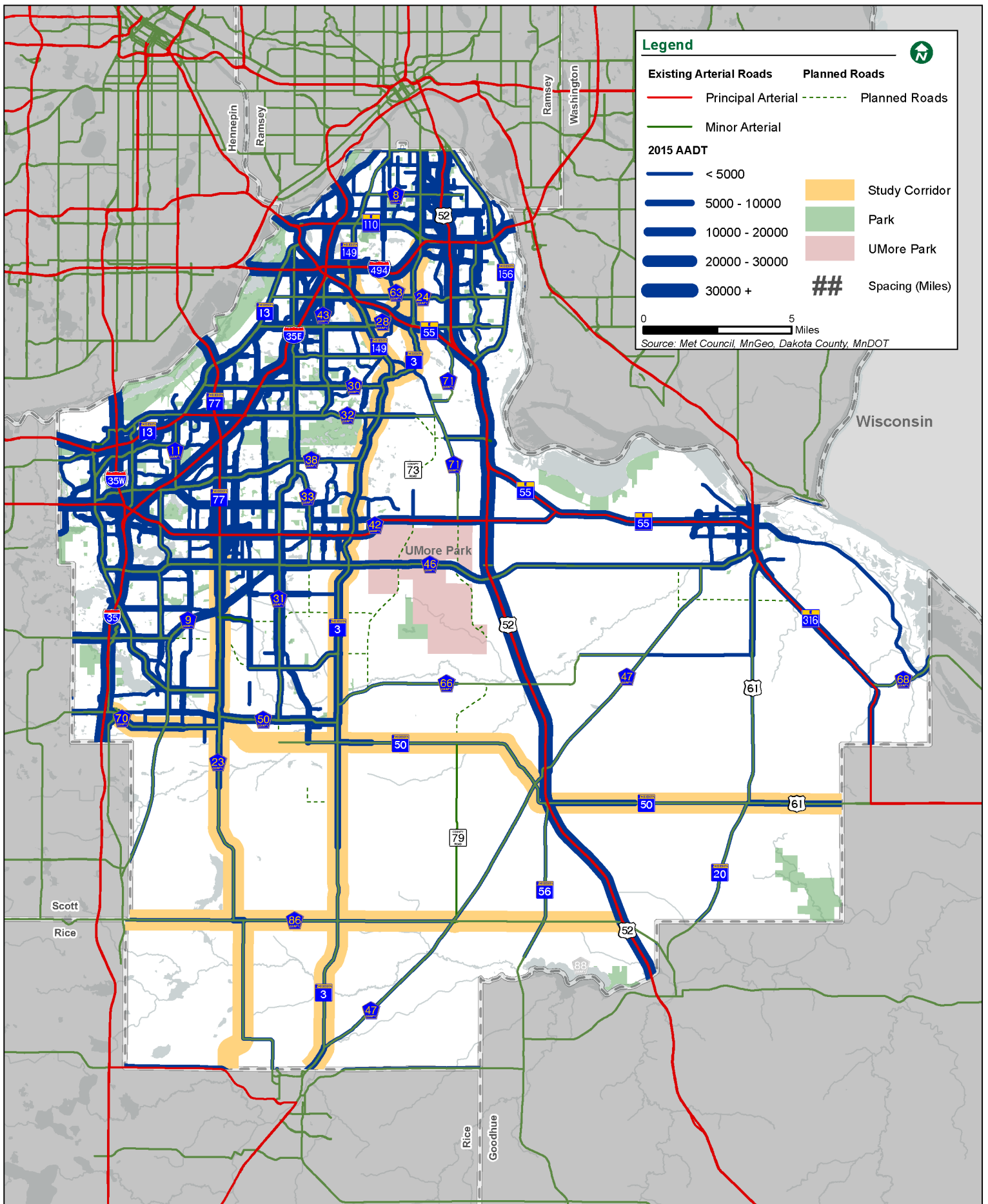
With reference to **Figure 4**, Dakota County's existing system includes no east-west PAs south of County Highway (CH) 42, a distance of about 20 miles. Similarly, the gaps between north-south PAs include 15-20 miles from I-35 to US 52 and about 10 miles from US 52 to MN 316. Even in the more rural parts of the County, these gaps may exceed desirable spacing – especially considering these are future growth areas.

All of the study corridor highways have roles in providing good north-south or east-west continuity and provide connections to important destinations. Additionally, the one-mile segment of CH 28 (Yankee Doodle Road) was also identified as a possible PA connection based on its links to CH 63 and MN 149.

1.2 Study Objectives

The Study's primary objectives were to evaluate how the above-noted highways are used and the features they exhibit compared with PA highway characteristics. As described in more detail below, PA characteristics were identified based on guidance from the Federal Highway Administration (FHWA), Dakota County, and the Metropolitan Council. Other objectives for the Study included documenting context for the highways and providing guidance to help Dakota County and its partners plan for both





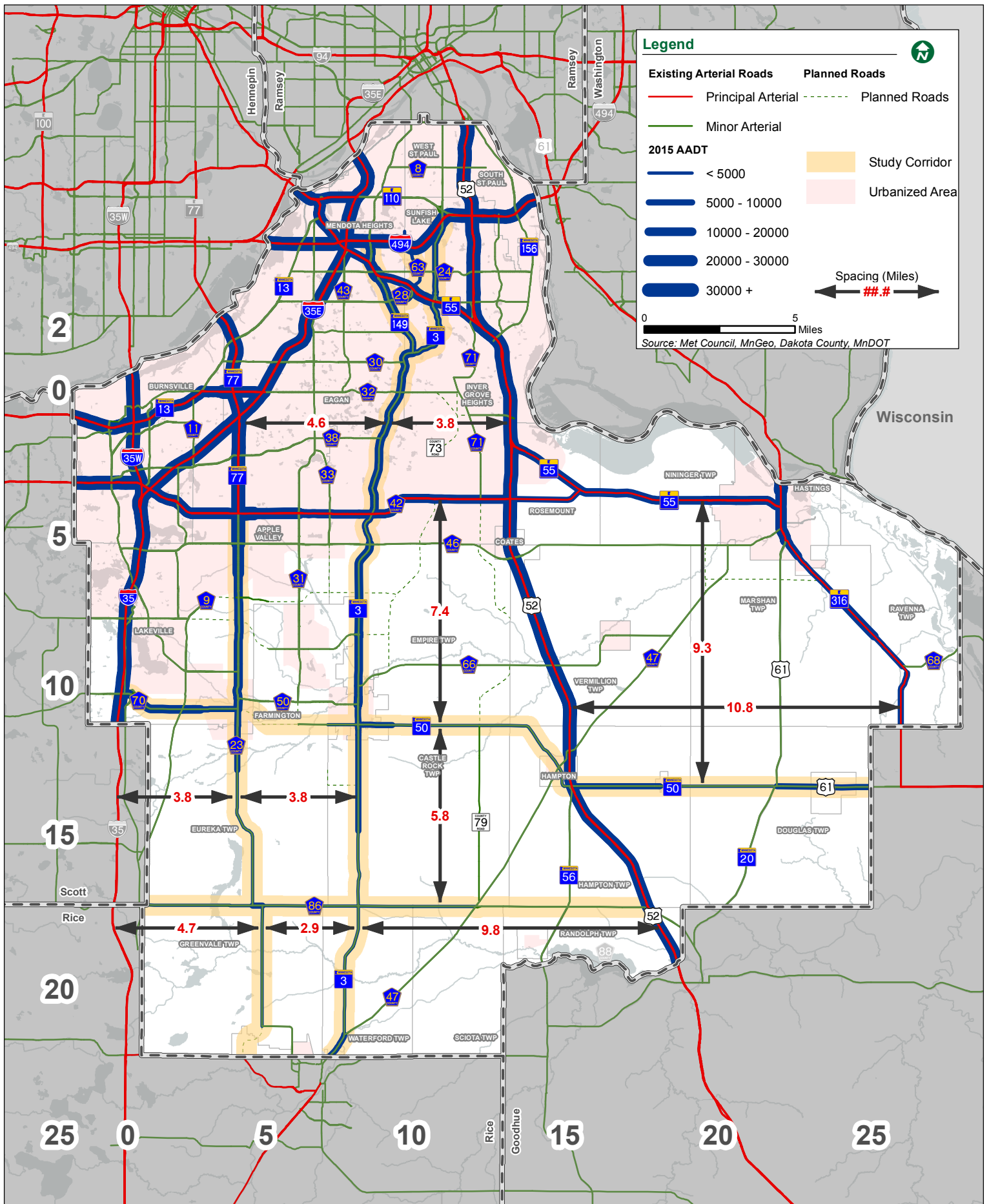
Principal Arterial Study

Arterial System & Corridor Volumes

Figure 3



0 5 Miles
Source: MnDOT, Dakota Co, Met. Council



Principal Arterial Study

Existing Principal Arterials, Study Corridors, and System Spacing

Figure 4



0 5 Miles
Source: MnDOT, Dakota Co, Met. Council

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regional and local highway system priorities. Perhaps most important, completing this Study will help prevent the consequences of not planning ahead, as listed in the text box.

Of course, growth will continue, even without proactive planning, as evident in new development along the highways addressed in this Study. But with a coordinated plan, the highway system is more likely to be designed to meet mobility and safety objectives for Dakota County’s many developing areas.

Possible Consequences of Not Planning Ahead

If more principal arterials are not considered, the County’s highway system might fail to support future needs. The possible outcomes include:

- An incomplete highway network
- Increasing traffic on highways not designed for needs
- Poor mobility; inefficient transportation system
- Likely increase in safety problems
- Unclear priorities for highway improvement projects and funding

The intent of the study was not to identify corridors that require major infrastructure investment or to prioritize improvement needs, but to identify corridors that will be required to provide a PA function for the public either now or in the future. This will allow Dakota County, MnDOT, and the cities to plan for and manage the corridors and supporting road network over time and make appropriate investment to support the PA function at the time they are needed.

Importantly, the Study does not complete a formal decision-making process for designation of new PA highway segments. But it does provide supporting data and guidance on next steps, including identification of a few segments proposed for formal review and near-term PA designation (in the coming months or years). The Study’s full Final Report serves as a reference for discussions of highway jurisdictional roles—considering local governments, Dakota County, the Minnesota Department of Transportation (MnDOT), and the Metropolitan Council. In this context, the Study provides information about the possible regional importance of several highway segments.

While setting priorities for highway system funding was not a primary study objective, designated PA highways have greater potential for National Highway System (NHS) preservation funding and for other federal and state funding programs. Additionally, Study results may provide guidance for highway system project priorities and cost participation.

The Study does not complete a formal decision-making process for designation of new PA highway segments. But it does identify a few segments proposed for formal review and near-term PA designation (in the coming months or years).

2 Study Scope and Process

2.1 Principal Arterial Characteristics

The Study’s process began by identifying the major Dakota County highways to be evaluated, as noted above. All of these highways provide continuity over long distances, serving many trips, commuters, and population or employment destinations. The methodology for the Study then considered dozens of parameters based on FHWA, MnDOT, Metropolitan Council, and Dakota County guidance.

2.1.1 Review of Applicable Guidance – PA Characteristics

Table 1 provides a complete list of characteristics to consider when looking at possible PA designations (non-freeway), based on the cited FHWA, Metropolitan Council, and Dakota County guidance. For each measure, the corridor and segments generally either meet the characteristic or not. In researching the guidance, the Study found PA characteristics could be described in two groups:

- **Decision characteristics** are those that most directly affect the suitability of corridors or segments to be future PA highways. These characteristics help establish if the highway is located well within the system and serves travelers in a manner consistent with a PA.
- **Timing characteristics** are those affecting the ease in which the corridor or corridor segments can be planned for, and adapted, to serve a PA function over time. These characteristics establish the “readiness” of the highway and could provide a basis for additional corridor planning.

Both decision and timing characteristics were considered important decision-making factors; however, some characteristics proved more important to differentiate between highway characteristics than others. Therefore, Table 1 notes which characteristics are considered “Key Factors” for this Study’s corridor- and segment-level analyses.

2.1.2 Key PA Characteristics Used for the Study

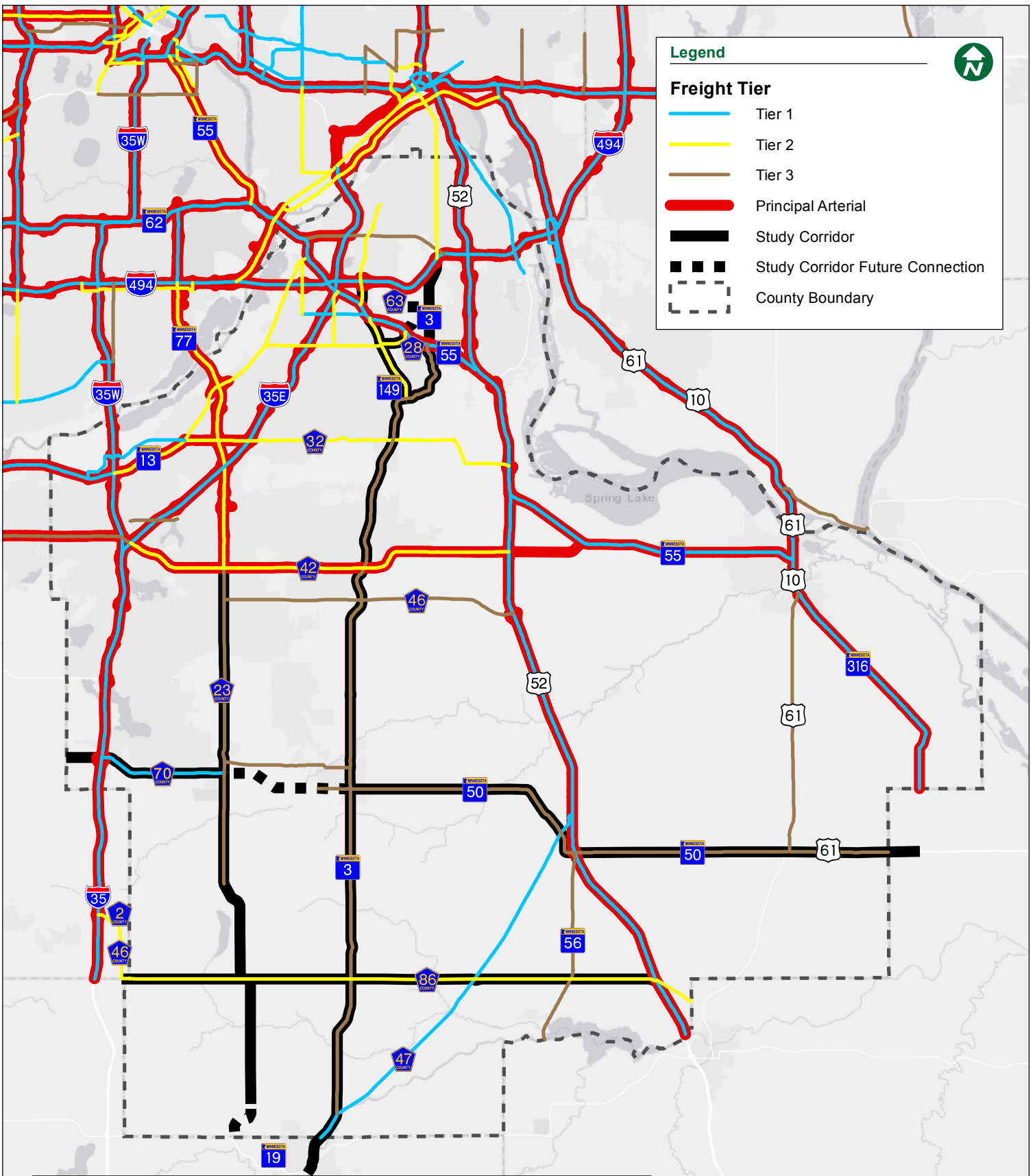
As noted under “Comments” in Table 1, the Study approach considered applicable guidance and the reasons why some characteristics were identified as key factors for corridor-level comparisons and why others were not. For example, some characteristics are based on high-level guidance only or will provide similar results for all corridors and, therefore, were not key factors for analysis of segments.

As listed in **Table 2** below, the Study’s framework for analysis and comparison of highway segments focused on a selected range of decision and timing characteristics. This focus helped to make the analysis more clear.

2.1.3 Additional Characteristics Observed for Dakota County Highways

With the guidance in Tables 1 and 2 as a reference, this Study also found that Dakota County highways sometimes have characteristics or context which suggest additional inputs and details toward findings and recommendations. For example, these factors were observed:

- **Land Use and the Presence of Transit** – Dakota County has a number of public transit corridors with regularly scheduled service. The presence of scheduled transit service on was considered as noted in Tables 1 and 2. However, a lack of scheduled transit service in the rural parts of the County is expected and is thus not considered a relevant characteristic on rural highway segments.
- **Freight Connections** – While many highways are used by trucks, the Metropolitan Council’s 2017 *Regional Truck Highway Corridor Study* provided an objective means to check designations for existing routes. **Figure 5** shows that most of study corridors are included as priority truck routes within the Metropolitan Council’s 3-tier scoring structure.



Source: Metropolitan Council, Regional Truck Highway Corridor Study, 2017

The Freight Tier is a weighted score for prioritizing regional truck highway corridors. Corridors were evaluated based on truck volume, truck percentage, proximity to freight clusters, and proximity to regional freight terminals.

Principal Arterial Study

Freight Network Overview

Figure 5



0 5 Miles
Source: Met Council, Dakota County

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Table 1. Characteristics to Consider for Future Principal Arterial Designation				
PA Characteristic	Guidance	Affects	Key Factor?	Comments
System Spacing	Urban: 2-3 miles, Rural: 6-12 miles	Decision	✓	An approximate fit to system spacing guidance is sufficient
Typical Volume	ADT, Urban: 15,000 to 100,000+, Rural: 2,500 to 25,000+	Decision	✓	The corridor and segment analyses for this Study note the combined importance of volumes and connections
System Connections	Connects to Interstate freeways, other principal arterials, selected A-Minor Arterials	Decision	✓	
System Capacity	Highest traffic volume corridors, higher existing volume in comparison to parallel corridors (within the spacing)	Decision	✓	Comparison to volumes of parallel study corridors
Freight Connections	Connect to regional job concentrations and freight terminals; connects to freight centers	Decision	✓	Freight tier assigned in the Met Council's <i>Twin Cities Regional Truck Corridors Study</i>
Access Spacing	Urban: Full access public street intersections at ½ mile or greater; Rural: Full access public street intersections at 1 mile or greater, Number of full access public street intersections per mile	Timing	✓	Access management problems may reduce feasibility of corridor as a PA
Intersections	Presence of grade-separated or high-capacity at-grade intersections	Timing	✓	Considered in context with volumes and connections
Transit	Preferential treatment for regularly scheduled transit, or bus lanes/priority (a "transit corridor") in urban segments (not applicable for rural segments)	Timing	✓	Scheduled transit routes imply a high demand for travel (not applicable for rural segments)
Right-of-Way	100 to 300 feet of highway right-of-way width (highway easements are sometimes observed)	Timing	✓	Limited right-of-way may reduce segment feasibility as a PA; study also considers setbacks/constraints
Parking	None (on-street parking not allowed)	Timing	✓	Parking is rarely allowed, but is noteworthy when it is
Operations	Speed, Urban: 40-65 mph, Rural: Legal Limit (State Statute), typically 55 mph	Timing	✓	Low-speed zones may reduce segment feasibility as a PA
System Mileage	Urban: 4-9% of system; Rural: 2-6% of system (define "system" as Dakota County's system)	Decision		High-level guidance only (not a corridor-level factor)
City Connections	Connects the adjacent cities along route, serve major activity centers, connect cities (>25,000 population in rural areas)	Decision		Similar for all study corridors
Regional Connections	Longest trip demands, serves long trip lengths (consider length of corridor)	Decision		Similar for all study corridors
Travel Shed	High proportion of travel on fewest miles (compares vehicle miles of travel, or VMT, of corridor to parallel route VMT)	Decision		Similar for all study corridors (use volume comparison)
Community Continuity	Provides continuity through cities	Decision		Similar for all study corridors
Employment Connections	Serves demand between central business district and outlying residential areas (i.e., connects residential communities to freeways that then connect into Minneapolis/St. Paul)	Decision		Similar for all study corridors (connections to other PAs and major highways are noted)
PA Continuity	Continuous route with no dead ends, connects to existing or proposed Principal Arterials on each end (system design factor)	Decision		Similar for all study corridors (system requirement)
Access Control	Presence of medians	Timing		Not a key factor by itself when comparing corridor segments
Bikes and Pedestrians	Presence of adjacent trails or sidewalks, no bike lanes	Timing		Not a key factor by itself when comparing corridor segments

Characteristics based on: FHWA, *Highway Functional Classification Concepts, Criteria, and Procedures (2013)*; Metropolitan Council 2040 *Transportation Policy Plan*; and Dakota County *Access Guidelines*

<u>Decision Characteristics</u> <i>Should the highway be a future PA?</i>	<u>Timing Characteristics</u> <i>Is the highway ready to be a PA?</i>
<ul style="list-style-type: none"> • System spacing – highway location in relation to existing PAs • Traffic volume – serves relatively large volumes and greater demands than parallel routes • System Connections and Capacity Role – connected to existing PAs; serves more traffic than parallel highways • Freight Connections – Is the highway a “truck route”? 	<ul style="list-style-type: none"> • 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 parking observed; is it prohibited? (Parking is discouraged on PAs.)

TABLE 2. FRAMEWORK FOR ANALYSIS OF HIGHWAY SEGMENTS

- **Highway Right-of-Way and Spatial Constraints** – There are several Dakota County highway segments that do not have public rights-of-way established, but instead are reserved by highway easements. A highway easement is not a major concern by itself. However, some segments include combinations of incomplete right-of-way, narrow easements, or constraints from railroads, numerous nearby buildings/structures and many access points. Combinations of such factors are known to present capacity and safety challenges, perhaps limiting the readiness of a highway segment for designation as a PA. Highway segments that offered established rights-of-way and few spatial constraints were considered stronger from a timing or “readiness” perspective.
- **Possible New Routings or Connections** – Some of the corridors/segments included in the Study (CH 63, CH 70, MN 50, CH 86, and CH 23) include proposed, as-yet incomplete, connections or possible new connections. Such segments may be less ready for PA designation and might also affect the readiness of adjacent segments. The Study team also added the one-mile segment of CH 28 (Yankee Doodle Rd.) as a connector between CH 63 and MN 149. The combined segments form a north-south corridor with CH 28 as a lateral connection.

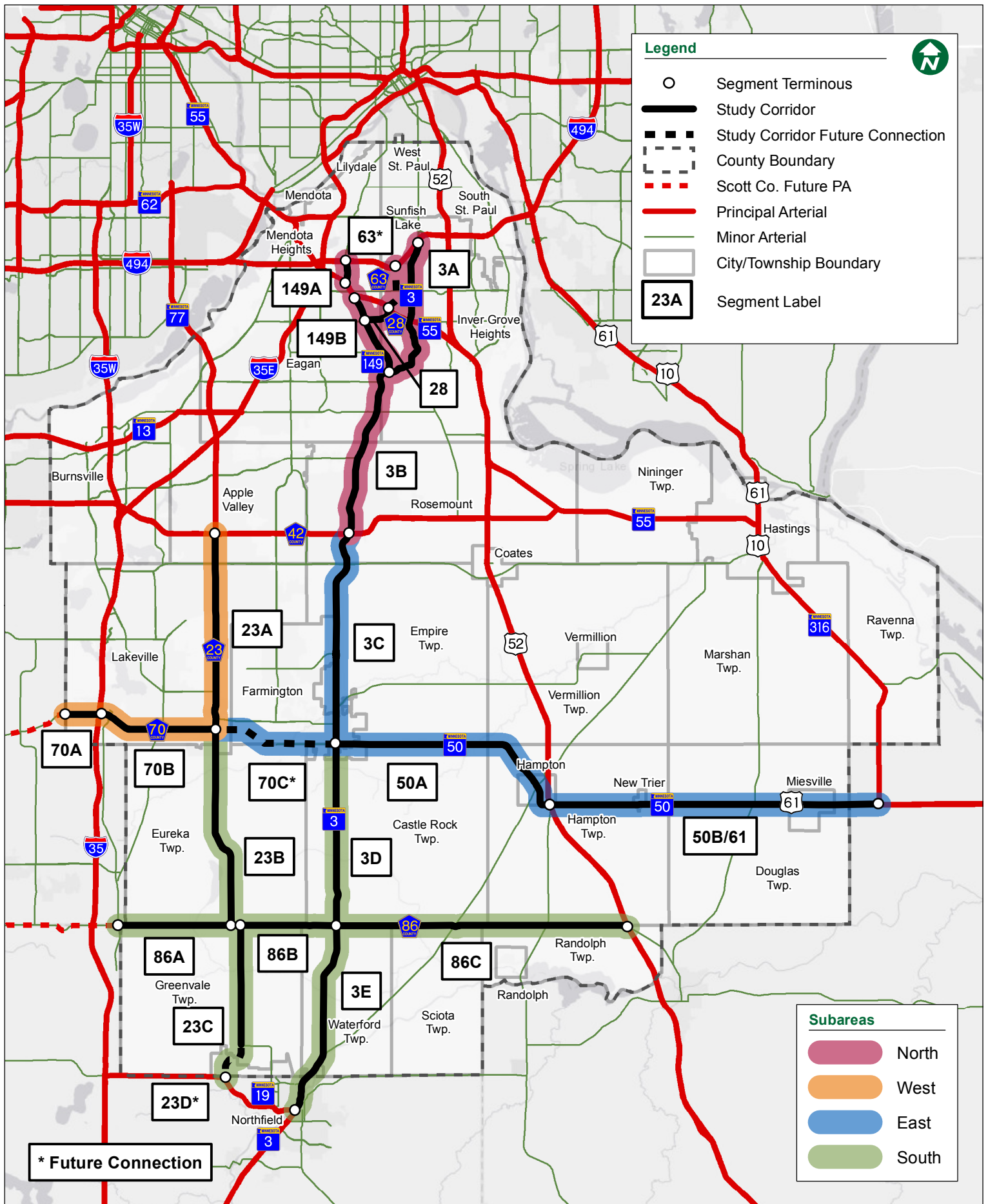
2.2 Input from Regional and Local Partners

In completing the Study, Dakota County invited and encouraged participation from a full range of relevant partners, specifically:

- MnDOT
- Metropolitan Council
- Dakota County
- Scott County
- Cities of Apple Valley, Eagan, Farmington, Inver Grove Heights, Lakeville, and Rosemount
- Representatives of the County’s 13 townships and rural centers (under 5,000 residents each)

Representatives of these agencies participated in periodic **Study Management Team (SMT) meetings**. The same agencies, as well as other invited stakeholders, were also involved in a series of four subarea outreach meetings, held from late November 2017 into January 2018.

The Study included periodic meetings with a management committee and a series of four subarea outreach meetings.



Legend

- Segment Terminus
- Study Corridor
- - - Study Corridor Future Connection
- - - County Boundary
- - - Scott Co. Future PA
- Principal Arterial
- Minor Arterial
- City/Township Boundary
- 23A Segment Label

Subareas

- North
- West
- East
- South

* Future Connection

Principal Arterial Study

Corridor Segments and Subareas

Figure 6



0 5 Miles
Source: MnDOT, Dakota Co, Met. Council

Subarea	Segment	Setting	Decision Characteristics (Should it be a Future 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	✓	CH 63 (Future)		2/5	✓	✓	✓	✓	✓✓	✓	6/6
	3B		✓	✓ 31,000	✓	TH 77	✓	4/5	✓			✓	Dtown Rosemount	✓✓	3/6
	63 ^C		✓	✓ 41,000	✓	✓	(Planned) ^E	5/5	✓	✓	✓	(Planned) ^E	✓✓	✓	6/6
	28 ^C		✓	✓ 23,000	✓	(Connector)	✓	4/5	✓	✓	✓		✓✓	✓	5/6
	149A			✓ 27,000	✓	CH 63 (Future)		2/5		✓	✓	✓	✓✓	✓	5/6
	149B		✓	✓ 30,000	✓	✓	✓	5/5	✓	✓		✓	✓✓	✓	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, Yes) ^F		4/5	✓	(Future Connection, Timing Uncertain) ^F					1/6
	3C		✓	✓ 26,100	✓	CH 31	✓	4/5	✓	✓	✓	✓	✓	✓	5/6
	50A	Rural	✓	✓ 10,200	✓	✓	✓	5/5	✓		✓	na ^G	Hampton	✓	3/5
	50B/61		✓	✓ 6,400	✓	✓	✓	5/5		✓	✓	na ^G	New Trier, Miesville	✓✓	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, No) ^F		3/5	✓	(Future Connection, Timing Uncertain) ^F					1/5
	86A		✓	✓ 5,300		✓	✓	4/5		✓		na ^G	✓	✓	3/5
	86B		✓	✓ 11,000		✓	✓	4/5				na ^G	Castle Rock	✓	1/5
	86C		✓	✓ 4,800	✓	✓	✓	5/5		✓	✓	na ^G	✓✓	✓	4/5

Qualification Guideline Notes:

- System Spacing:** Average spacing from considered segment to nearest existing PA must be... Urban: 2-3 miles. Rural: 6-12 miles.
- Typical Volume:** Qualifies if existing or future AADT's fall between... Urban: 15,000 to 100,000+, Rural: 2,500 to 25,000+.
- System Connections:** Qualifies if considered segment connects to an existing PA.
- System Capacity Role:** Qualifies if considered segment has highest volume compared to parallel existing highways within system spacing guidance.
- Freight Connections:** Qualifies if segment is assigned a freight tier by the Metropolitan Council.
- Access Spacing:** Number of full/primary public street intersections per mile must be... Urban: 1 per 1/2 mile, Rural: 1 per mile (maximums).
- Posted Speed:** Qualifies if posted speed limits within the segment are... Urban: 40 - 65 mph, Rural: 55 mph.
- Intersections:** The segment connects to a grade separated or high-capacity at grade intersection.
- Transit:** Public transit routes are currently present on the segment.
- Right-of-Way:** Qualifies if existing ROW (or easement) is more than 100 feet wide or if setbacks provide such space (if both, two checks). Constraints noted.
- No Observed Parking+Posted:** Qualifies if parking is not observed contextually (typical) or if posted "No Parking" in any portion of the segment (two checks)

Remarks:

- ^A Representative 2030 forecast volumes are shown for each segment.
- ^B If a nearby parallel highway has higher current or projected volumes than the considered segment, the higher-volume link is noted.
- ^C The analysis for CH 63 is based on future improvement designs, including a new alignment. Much of the needed right-of-way has been dedicated. CH 28 is analyzed in the study only as a connecting link for CH 63 and MN 149.
- ^D Segments 70C and 23D are proposed future connections that require additional studies and right-of-way acquisition.
- ^E As noted above ("C"), CH 63 is a planned corridor, connecting to I-494. Future freight and transit connections are expected, with timing in the foreseeable future.
- ^F As noted above ("D"), Segments 70C and 23D are proposed future connections. Segment 70C is expected to meet all or most decision characteristics, while Segment 23D is not. Timing for both is contingent on local development.
- ^G The "Transit" question is considered inappropriate for rural areas (five timing characteristics considered).



June-2018

Characteristics based on: FHWA, Highway Functional Classification Concepts, Criteria, and Procedures (2013); Metropolitan Council 2040 Transportation Policy Plan; and Dakota County Access Guidelines

2.3 Study Segments and Dakota County Subareas

Figure 6 and **Table 3** summarize the PA Study's full analysis, based on the PA decision and timing characteristics considered for 21 highway segments. The segments are grouped into four subareas (North, West, East, and South) to provide perspective on land use and travel characteristics. More details about the data considered for each segment, along with maps focused on features in each segment, are provided in **Appendix A – Highway Segment Data and Detailed Maps**.

3 Study Analysis and Results by Subarea

This section provides summaries of the Study's results by subarea (North, West, East, and South). Each summary statement highlights the important observations, including input received at referenced subarea meetings, along with the conclusions and recommendations. **Figure 7** provides an overall introduction and summary to the conclusions and recommendations.

3.1 North Subarea

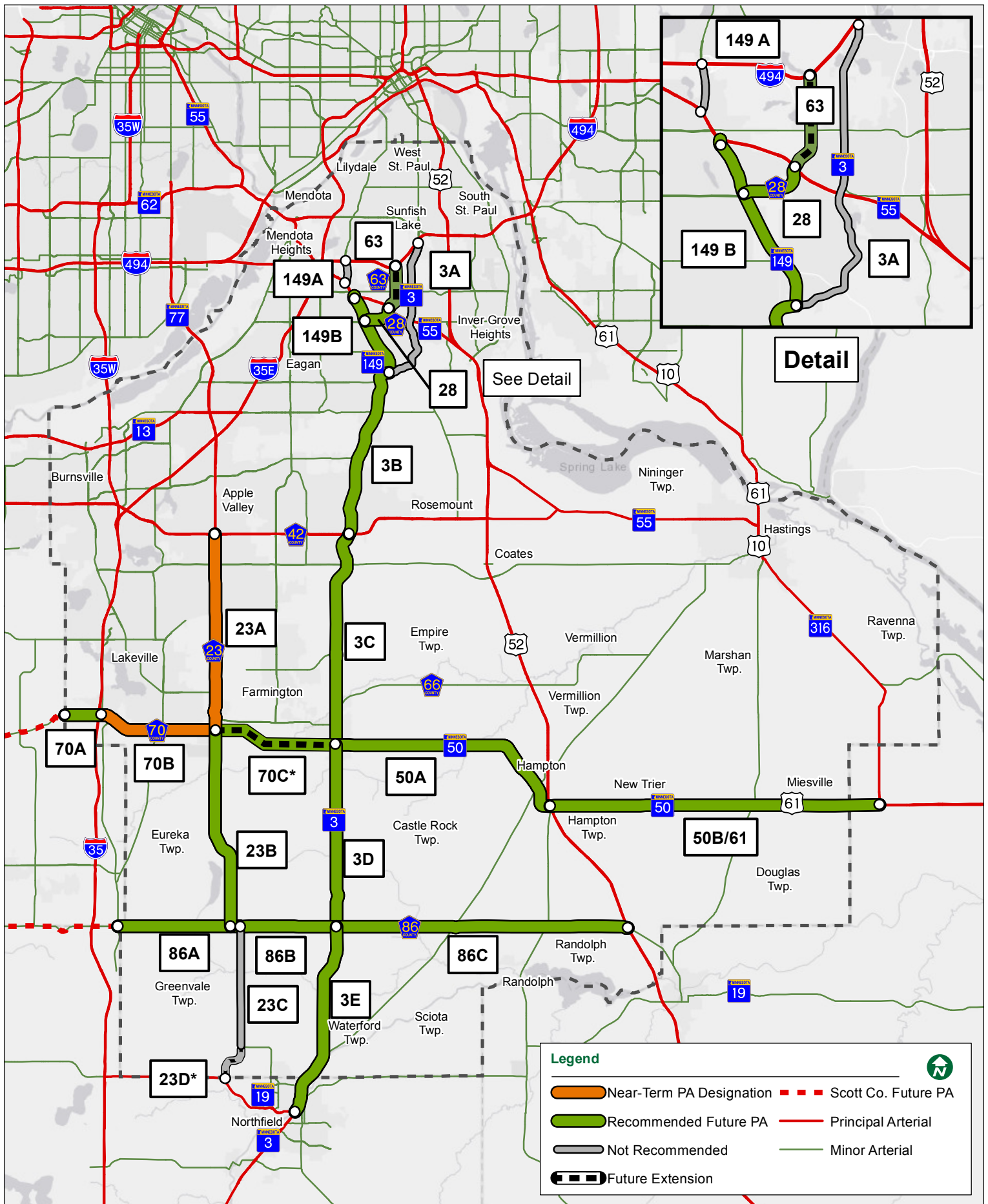
3.1.1 Observations and Input Received

The North Subarea is a developed urban part of Dakota County and exhibits some of the highest traffic volumes observed on PA Study highways. The system issues for this subarea focused primarily on roles of north-south highways, including a future extension and connection on new alignment for CH 63 from I-494 to MN 55.

The North Subarea Focus Group meeting was held on January 4, 2018. Comments, discussion, and analysis noted:

- Concerns about the characteristics of MN 3 (Study Segment 3A) which is mostly residential and includes curves which limit sight distance. Segment 3A is also not a designated truck route.
- The spacing between Study Segments 63 and 3A is roughly a half mile – too close for spacing guidance between two PA highways.
- Segment 3B, while constrained through Rosemount's downtown, is an important north-south travel corridor in central Dakota County, connecting to St. Paul/Minneapolis to the north and to Farmington and Northfield to the south.
- The MN 149 Segment has importance as both a through route and as a route providing service to major employment and freight businesses (even while lacking designation as a freight corridor by the Metropolitan Council).
- The one-mile segment of CH 28 connecting CH 63 and MN 149 is included as a possible future PA because of its potential role in a future north-south PA system corridor.

Intentionally Blank



Principal Arterial Study



0 5 Miles
Source: MnDOT, Dakota Co, Met. Council

Study Conclusions & Recommendations

Figure 7

3.1.2 Conclusions and Recommendations for the North Subarea

The segments in this subarea fit the characteristics of PA highways. However, the spacing is too close between future CH 63 and Segment 3A to recommend both as future PA segments. The CH 63 segment

NORTH SUBAREA CONCLUSIONS: Segment 3A (MN 3 from I-494 to MN 149) is not recommended as a future PA. Other segments (CH 63, CH 28, MN 149, and MN 3 from MN 149 to CH 42) are recommended as future PA highways, but not for near-term designation.

is forecast to serve more traffic, currently has dedicated right-of-way, and will provide design characteristics appropriate for a PA. Therefore, Segment 3A is not recommended as a future PA; all other segments in the North Subarea are recommended as future PA highway routes, but not for near-term designation.

Segment 3B exhibits the above-noted constraints in Rosemount's downtown. CH 28 is a possible connection along a future north-south PA corridor; its role in a future PA system will be confirmed through future designations.

3.2 West Subarea

3.2.1 Observations and Input Received

Similar to the North, the West Subarea is generally a developed urban part of Dakota County and exhibits some of the highest traffic volumes observed on PA Study highways. In fact, CH 23 carries more traffic in the West Subarea than any other segments in the Study. The system issues for the West include the roles of CH 23 (north-south) and CH 70 (east-west). The mobility roles and connections provided by these two highways, which intersect in Lakeville's Airlake Industrial Park area, are important factors in the overall PA Study because of the regional connections they provide. CH 70 is also planned to provide a future connection to Farmington, and via CH 74 (Ash Street) to MN 50 and US 61 (see more below in the East Subarea section).

The West Subarea Focus Group meeting was held on January 8, 2018. Comments, discussion, and analysis noted:

- The meeting included representatives of Dakota County and local governments (Apple Valley and Lakeville) as well as developers. This led to discussions of land development issues, including the need to create a suitable system of local roadways along Study segments as development fills in.
- Dakota County and the communities closely involved in the West Subarea will need to engage on supporting studies, including the extension of CH 70 east to Farmington.
- The CH 70 - MN 50 - US 61 corridor presents a number of highway jurisdictions and, with completion of the proposed future connection to Farmington and to US 52, the regional importance of this corridor should be considered. This corridor includes connections to Lakeville's Airlake airport and industrial park, to US 52, US 61, and to Scott County to the west (where Scott County Highway 8 has also been identified as a future PA).
- Similarly, it is noted that CH 23 transitions to the north to MN 77, an existing PA.

- Discussions noted the need for continued studies to address the design of CH 70, including the extension east to Farmington (joining CH 74 or Ash Street).
- CH 31, or Pilot Knob Road, was discussed as a locally important north-south corridor. This roadway has volumes in some segments that are comparable to parallel volumes on CH 23; however, unlike CH 23 or MN 3, it does not provide continuity south of Farmington and is not proposed to do so.

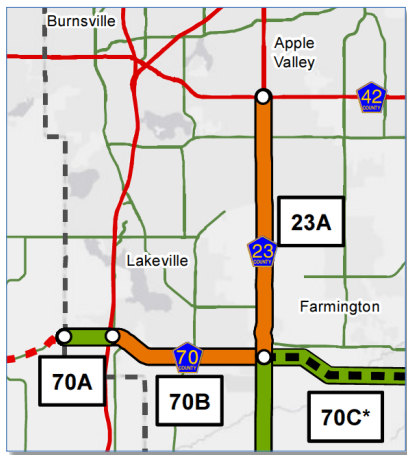
3.2.2 Conclusions and Recommendations for the West Subarea

The segments in this subarea fit the characteristics of PA highways. Additionally, CH 23 and CH 70 in the West Subarea both exhibit reasonable available rights-of-way, good access spacing/management, and high posted speeds. In fact, Segment 23A is a 4-lane divided roadway for its entirety. The lands surrounding the two highways are established high-growth areas, with current growth and development evident as well as major commercial and freight uses (Airlake Industrial Park). Therefore, there is short-term risk of development patterns that conflict with PA highway characteristics. Considering these observations, Study objectives, and connectivity to existing PA segments to the north (MN 77 and CH 42) and west (I-35), Segments 23A and 70B are recommended for near-term PA designation. These are the only two segments in the PA Study recommended for near-term designation. The only other segment in the West Subarea, Segment 70A west of I-35 is recommended as a future PA highway route, but not for near-term designation.

WEST SUBAREA CONCLUSIONS: CH 23 from CH 42 to CH 70 and CH 70 from I-35 to CH 23 are recommended for near-term PA designation (the only two with this recommendation in the Study). CH 70 west of I-35 is recommended as a future PA, but not for near-term designation.

3.2.3 West Subarea Functional Class Change Recommendation and Process

The process for accomplishing a functional classification change warrants attention for the above-referenced segments of CH 23 and CH 70 (23A and 70B). As noted, these are the only two links recommended in the Study for near-term designation as PA highways, and they were identified based



on characteristics that strongly reflect existing and future roles in the system. These two segments also fit together in a future PA system because they intersect to complete a new stage for the overall system. Specifically, PA highways should interconnect; and this recommendation would add both north-south and east-west links to the system, connecting at a common point.

While the timeframe to formally complete the recommended designation of these segments as PA highways is not certain, the process is laid out by MnDOT and the Metropolitan Council. See applicable guidance at:

www.dot.state.mn.us/roadway/data/functional_class.html

As noted in the detailed guidance for a functional class change process, MnDOT has the primary responsibility for developing and updating the statewide highway functional classifications (23 CFR §470.105). However, the change process will begin by Dakota County completing and submitting a

“Functional Classification Change Request” form to the Metropolitan Council. The referenced federal regulation requires MnDOT’s cooperation with local officials in developing and updating the functional classification and the Transportation Advisory Board (TAB) typically reviews change requests.

3.3 East Subarea

3.3.1 Observations and Input Received

The East Subarea has important connections to the North and West Subareas via MN 3 to the north and the future connection to CH 70 to the west. Transitional land use is an important characteristic of the area, with both urban and rural areas observed. Traffic volumes reflect this transition, as they vary widely in segments. The system issues for the East include the connections to the fully urbanized parts of Dakota County (north and west as noted above) and the regional connections to communities in bordering counties such as Northfield (south) and Red Wing (east). As discussed for the West Subarea above, CH 70 is planned along a future connection linking Farmington to Lakeville and to I-35 more directly than provided by existing CH 50. Therefore, the regional importance of the CH 70 - CH 50 - MN 50 - US 61 corridor is also a consideration to the east.

***EAST SUBAREA CONCLUSIONS:** All segments are recommended as future PA highways, but not for near-term designation. These include MN 3 from CH 42 south to MN 50, the future connection of CH 70 from CH 23 to MN 3, and MN 50/US 61.*

The East Subarea Focus Group meeting was held on November 30, 2017. Comments, discussion, and analysis noted:

- Similar to the discussion noted above for the West Subarea, participants asked about CH 31 (Pilot Knob Road). While this roadway exhibits some relatively high volumes, it does not provide continuity south of Farmington and is not proposed to do so.
- The need for continued studies involving Lakeville and Farmington, in part to address the proposed design for the CH 70 extension, connecting to MN 50 in Farmington via CH 74 (Ash Street).
- The need to manage highway access and mobility through the small but growing communities to the east – Hampton, New Trier, and Miesville.
- The Focus Group discussed traffic counts and noted the 2030 forecast volumes for MN 50 east of Hampton (Segment 50B/61) suggested a reduction in travel demand versus counts in 2014 and 2015. MnDOT’s counts are updated every three years and Dakota County typically updates counts semi-annually; forecasts are now also getting updated. The low growth forecast for MN 50 out to 2030 was partially based on limitations of the regional travel model at the edges of the metro area, as well as need for updates. For purposes of this study, the 2030 forecast volumes to the east will suggest a flat forecast as a placeholder rather than a future reduction (Appendix A).

3.3.2 Conclusions and Recommendations for the East Subarea

The segments in this subarea fit the characteristics of PA highways and all are recommended as future PA highway routes, but not for near-term designation. The segments include MN 3 from CH 42 south to MN 50, the future connection of CH 70 from CH 23 to MN 3, and MN 50/US 61 extending east to the

county line. As noted for both the West and East Subareas, the regional importance of this multi-jurisdictional corridor should be considered in future studies.

3.4 South Subarea

3.4.1 Observations and Input Received

SOUTH SUBAREA CONCLUSIONS: CH 23 from CH 86 to MN 19 in Northfield is not recommended as a future PA route. All other segments (CH 23 north of CH 86, MN 3, and CH 86) are recommended as future PA highways, but not for near-term designation.

The South Subarea is rural, but includes future growth areas. With limited local traffic generators, the highways in the South are often used for through trips and provide important connections to jobs and commerce. The system issues for this subarea include connectivity to the West and East Subareas (noted above), to I-35, to

existing PA segments in Northfield, and to Rochester via US 52, an existing PA.

The South Subarea Focus Group meeting was held on December 13, 2017. Comments, discussion, and analysis noted:

- The southern-most segments of CH 23 (Segments 23C and 23D) are spaced closely with the parallel segment of MN 3, Segment 3E (the highways are 3 miles apart or less). This compares to guidance for rural-area spacing of 6-12 miles.
- The Metropolitan Council includes MN 3 within its freight tiers, including Segment 3E (see Figure 5, above). The parallel Segments 23C and 23D are not identified as designated truck routes.
- Participants discussed observations of lower forecast volumes on the above-noted segments of CH 23 vs. the parallel segment of MN 3 and also noted:
 - MN 3 currently serves as the more direct and primary north-south route through Northfield.
 - There are potential challenges with the future connection proposed for CH 23 into Northfield (Study Segment 23D). Land uses in the area proposed for the future connection include a solar farm and land owners may not be supportive.
- CH 86 is a locally important east-west corridor, connecting to US 52 to the east and to Scott County destinations and I-35 to the west (it is noted as a future Scott County PA). However, CH 86 has right-of-way constraints in Castle Rock and lacks a direct connection to I-35. An interchange with I-35 has been proposed for the CH 86 overpass location; but this is a long-term concept and no serious studies have been undertaken.

3.4.2 Conclusions and Recommendations for the South Subarea

The segments in this subarea typically fit the characteristics of PA highways. However, the spacing is close between the southern-most portions of CH 23 and MN 3, and relative importance in connecting to Northfield is an issue as noted above. The MN 3 corridor provides a more direct alignment using all existing roadway and will carry greater forecast volumes. Given the comparisons noted, and the

are recommended as future PA highway routes, but not for near-term designation.

4 Study Conclusions and Next Steps

This Study concludes with the above-noted subarea recommendations, including the proposed near-term official designation of CH 70 east of I-35 and CH 23 north of CH 70 as PA highways (West Subarea). **Figure 8** summarizes next steps, which will include noting recommendations in the County’s 2040 Transportation Plan. Other elements of future highway system management are outlined below.

4.1 Near-Term PA Segment Designations

The proposed near-term designations will be formally addressed in the coming months or years with the Metropolitan Council and MnDOT. This Study’s results will also be updated over roughly the next 10-12 years and will be reflected in transportation plans and through proactive management of the County’s system.

As detailed in Section 3.2.3 above, two segments of CH 23 and CH 70 (23A and 70B) are recommended in the Study for near-term

designation as PA highways. Applicable guidance for changes to functional class is available at this MnDOT web page: www.dot.state.mn.us/roadway/data/functional_class.html

Actions to resolve the proposed new designations will include Dakota County completing and submitting a “*Functional Classification Change Request*” form to the Metropolitan Council and review by the Transportation Advisory Board (TAB). See Section 3.2.3 for more information.

4.2 Management of Future PA Highways; Benefits

Most of the highway segments evaluated in this Study have characteristics suggesting potential to become PA highways in the future. However, timing characteristics are often not strong enough to justify near-term designations. For example, in the North Subarea, there are complexities with multiple routes and the need to complete design and construction of CH 63. Other planning to add future connections (for example, the CH 70 extension) and to address constrained rights-of-way will be needed to address the readiness and sequence for additional designations. See Appendix A for more details on such planning needs, by segment.

4.2.1 Arterial Access Management, Local Planning, and PA Cost Participation

As growth and development occurs along the corridors, cities and townships can be proactive to:

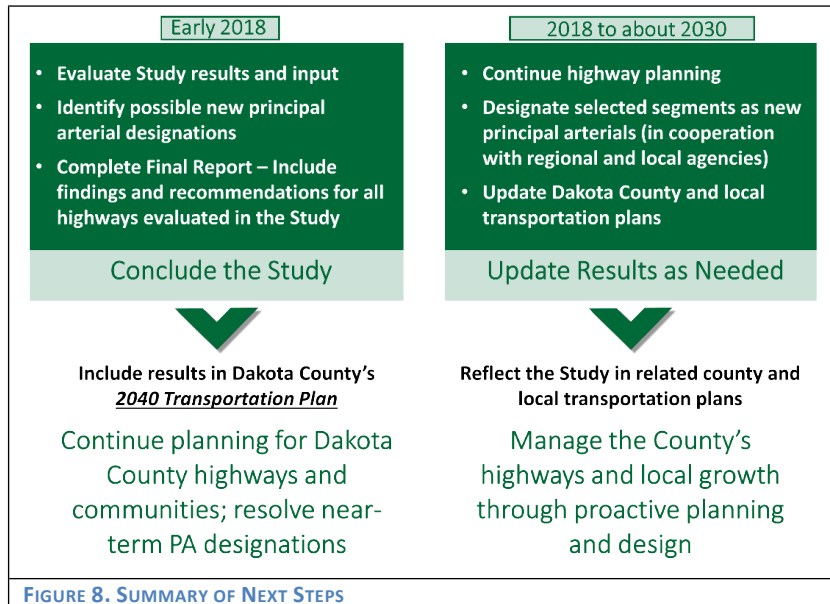
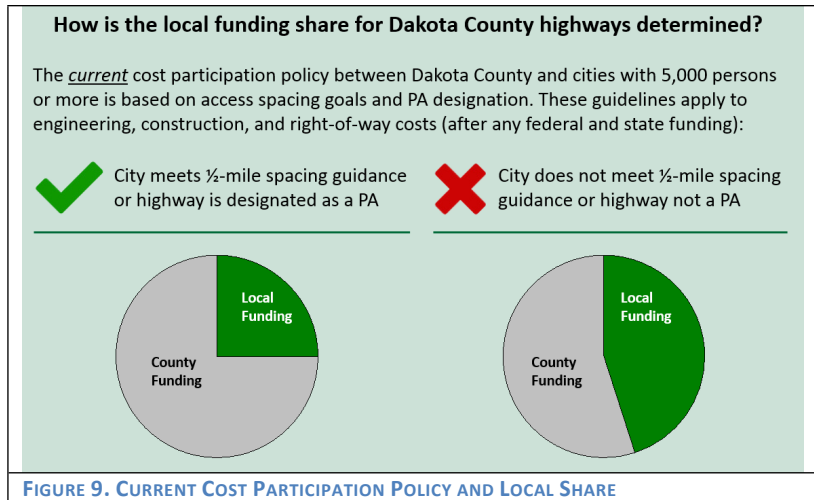


FIGURE 8. SUMMARY OF NEXT STEPS

- Reflect highway system plans in local plans
- Support and facilitate access management and right-of-way goals for future PA highways

Attention to access management is important to provide safe and efficient arterials and develop well-planned roadways and communities, regardless of cost participation policies. But additionally, Dakota County’s cost participation policy for cities with 5,000 persons or more is based on access spacing goals and PA designation. As illustrated in **Figure 9**, the County’s *current* policy limits local cost participation to 25 percent when an arterial is managed to limit full access to ½-mile spacing or if the arterial is a designated PA highway. As this study concluded, Dakota County was considering *possible revisions* to this policy (as part of the 2040 Transportation Plan) which could further reduce a city’s cost participation if the arterial is a currently designated PA highway or a future PA based on this Study.

In townships and cities with less than 5,000 in population, funding for Dakota County and Trunk Highway projects is provided primarily through federal, state, and county sources.



4.2.2 Arterial Access Management in Growing Communities

Figure 10 provides four general illustrations of how growth may occur in relation to access management measures on a multi-lane arterial. In Dakota County growth areas, roadway design and access management on future PA highways should consider the potential to maintain ½-mile full-access spacing to provide safety and mobility benefits as well as conformance with County guidance.

Cooperative planning among local jurisdictions, Dakota County, and MnDOT is the recommended best practice. As shown, development-driven adjustments to access on existing and future PA highways should be planned based on the ½-mile full-access spacing guidance. Additionally, parallel local roadways designed to support the arterial should be considered as part of the planning process (Figure 10, illustration no. 4).

Cooperative planning and design for existing and future PA highways should follow access-spacing guidance and consider parallel local roadways to support the arterial.

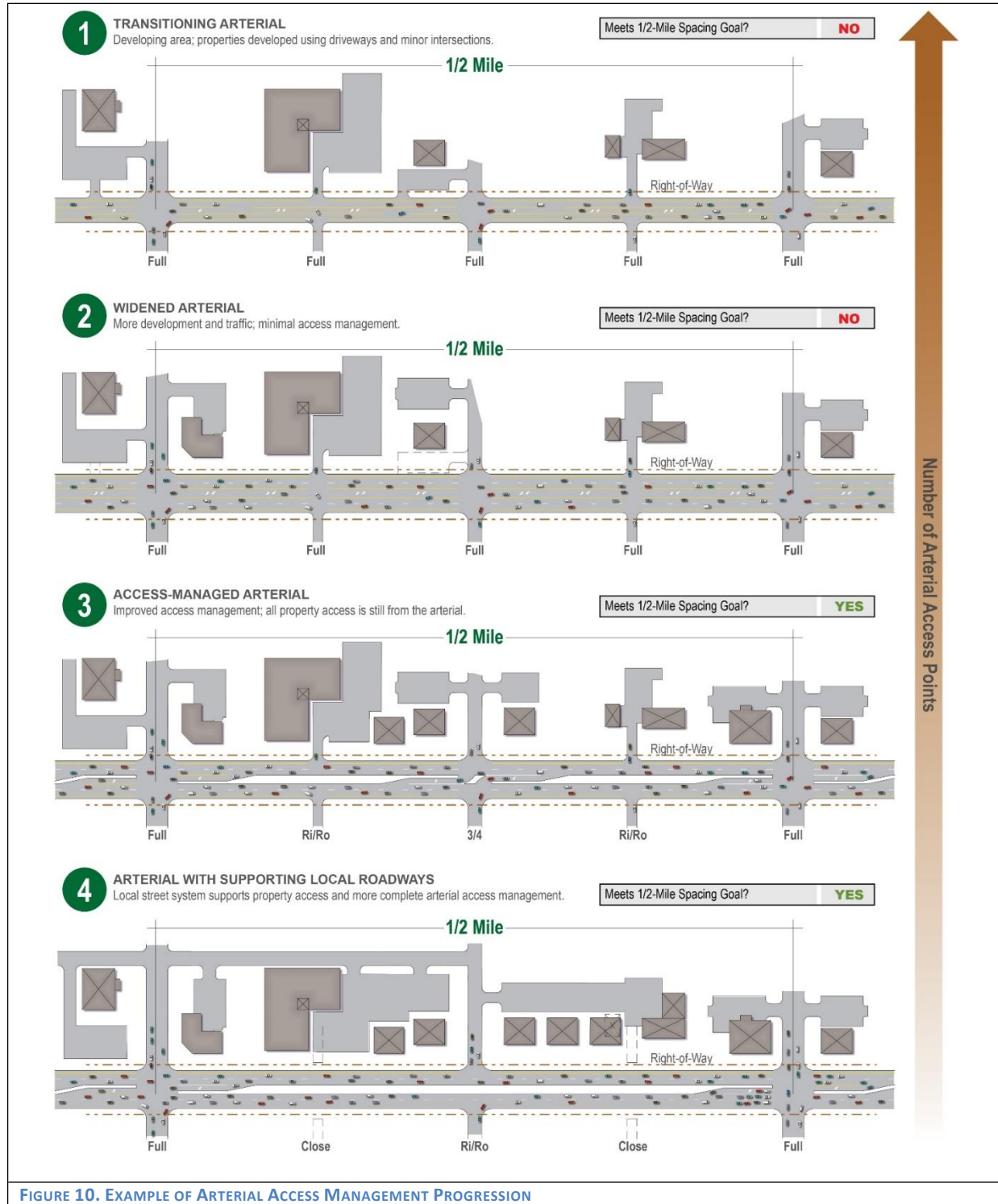


FIGURE 10. EXAMPLE OF ARTERIAL ACCESS MANAGEMENT PROGRESSION

4.2.3 Study Benefits for Regional and Local Planning

This Study provides a long-range perspective for Dakota County’s arterial highway system, with two segments on CH 23 and CH 70 proposed for near-term designation as PA highways (Section 3.2.3). Because of this, the benefits of the Study are to:

- Clarify Dakota County’s perspectives on which arterial highways have importance both regionally and locally.
- Inform regional transportation planning intent, as Dakota County’s conclusions can be reflected in the Metropolitan Council’s Transportation Policy Plan (TPP) and in long-range MnDOT plans.
- Provide information about each of the arterials addressed herein as background for future highway corridor and design studies.

As noted in Section 1, the Study does not complete a formal decision-making process for designation of new PA highway segments. Nor does the Study set priorities for highway system funding. However, it does provide supporting data and guidance for the next formal steps (selected PA designations); and it may serve as guidance for highway system project priorities and cost participation.

4.2.4 Review of Dakota County’s Next Steps

With reference to the details above (including Section 3.2.3), Dakota County’s next steps include:

- Complete and submit a “*Functional Classification Change Request*” form and supporting information to the Metropolitan Council, requesting portions of CH 23 and CH 70 (segments 23A and 70B) be classified as PA highways.
- Working with local officials (including the Cities of Apple Valley and Lakeville), support the Met Council and MnDOT functional classification change review and determination process.
- Include the results of this Study in its 2040 Transportation Plan.
- Communicate with stakeholders about the benefits of corridor management on the future PA highways, including potential for reduced shares of local government cost participation for highway improvement projects.
- Use this Study to guide additional planning actions and priorities. For example:
 - Provide continued leadership, technical assistance, guidance, and input to corridor planning for future PA highways and to address other Dakota County highway system issues (refer to the analysis by segment in Table 3 and Appendix A).
 - Encourage cities and townships to plan for future PA highways, including planning for access management and right-of-way goals in constrained areas.