

CORRIDOR MANAGEMENT RECOMMENDATION MAPS

2040 Corridor Management Plan for Dakota County Highway 42

This Corridor Management plan provides 20-year guidance for managing Highway 42 from the County's west border in Burnsville to Highway 52 in Rosemount. The Corridor Management Plan is based on the recommendations from the Visioning Study that provided a data driven approach that considered both existing and future traffic operations, reviewed existing safety issues, and documented pedestrian, bicyclist and transit users needs on the corridor. The Visioning Study identified multiple strategies to improve capacity, infrastructure, pedestrian/bicycle facilities and connectivity, and access management that can be prioritized for implementation. More details on the Visioning Study can be found in the Technical Memorandum documentation.

RECOMMENDATION MAPS

The following recommendations maps summarize the various tools and management strategies for roadway, pedestrian, bicyclist and transit improvements. These recommendations can address the existing or future needs of the corridor and help reach the goals of improving safety, reducing congestion and delays, providing access to adjacent properties and planning for future transportation needs.

CORRIDOR MANAGEMENT RECOMMENDATION MAPS LEGEND



Recommends a right-in/right-out intersection that removes the ability for local street and Highway 42 traffic to make left turns. In some locations the right-in/right-out is only in one direction and is depicted with white arrows in the icon.



Recommends a 3/4 intersection that allows left-turns from Highway 42 to the local street but does not allow left turns from the local street onto Highway 42. In some locations the left-in is only in one direction and is depicted with only one white arrow in the icon.



Denotes a full-access location where the local street stops but has the ability to make a left, right or go through at the Highway 42 intersection. These locations will continue to be monitored for safety or capacity issues. Justification for future signals or for alternative traffic controls will be based on assessment of traffic needs.



Recommendation for a future grade-separation of the local street and Highway 42 at the highest volume intersections. Further study needed to determine final configuration.



These locations represent a recommendation for enhancements to an existing signal such as re-timing, adding yellow-flashing arrows or light enhancements to improve visibility of signal head or can show locations of planned new signals.



Recommends either adding additional turn lanes or lengthening existing turn lanes to accommodate future traffic volumes.



Removal of an existing signal, typically recommended to be replaced with a 3/4 access intersection configuration instead.



Icon represents new freeway loop ramps at locations with freeway connections with Highway 42.



Priority locations for intersection improvements for pedestrian and bicyclists.



Recommended locations for tunnels or bridges for pedestrians and bicyclists.



Locations for future transit stop improvements including sidewalk connections, platforms for loading, benches, lighting or shelters.



Identifies locations where either new frontage/backage roadways or improvements to existing frontage roads are recommended.



Locations that require further study to determine the final roadway and intersection configurations.



Coordinated improvements will be grouped together inside boxes to note items that should be implemented together.

(April 2022)

NOTE: These pages are formatted for 11 x 17 printing

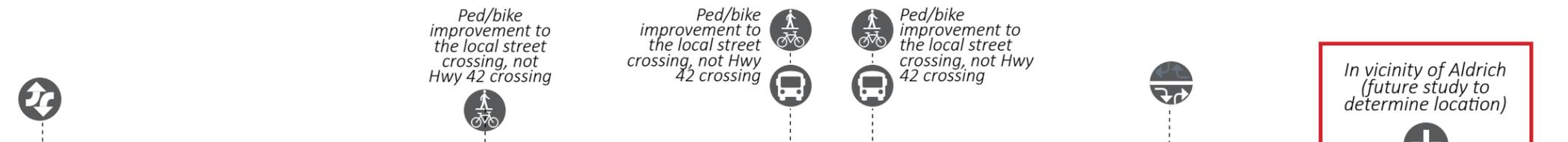


Corridor Management Recommendations

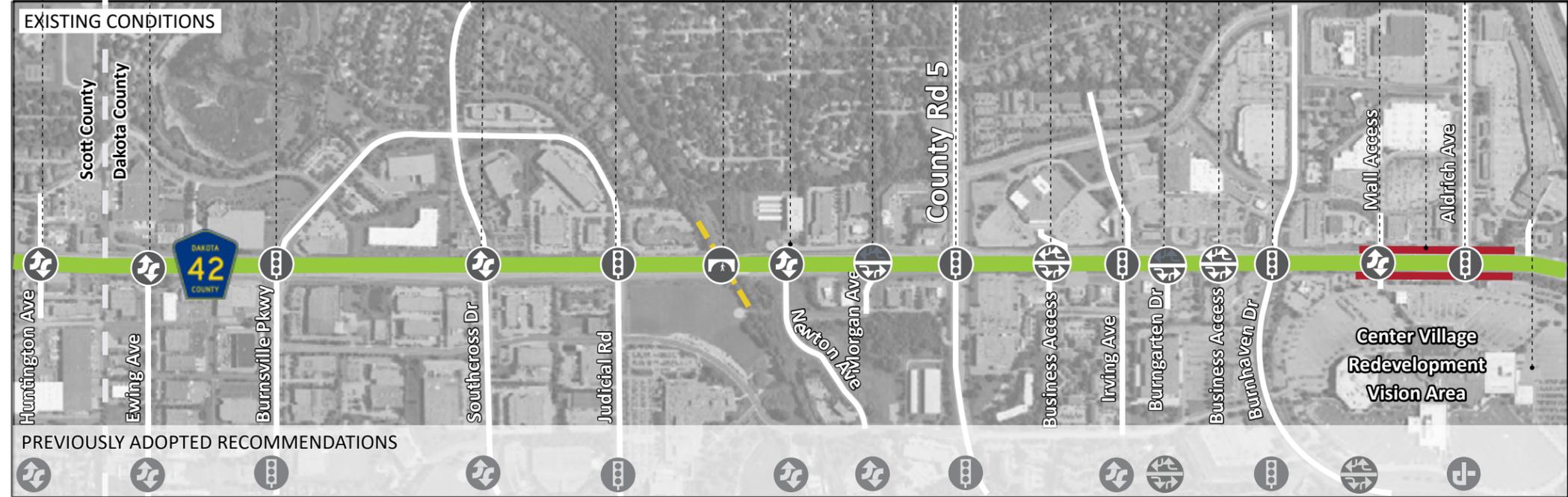
2040 Vision Plan Co Hwy 42 and Segments

Figure A
City of Burnsville
Section 1 of 2

LONG TERM RECOMMENDATION

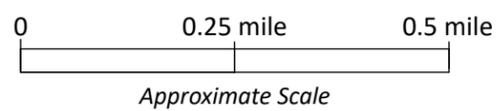


SHORT/MEDIUM TERM RECOMMENDATION



CORRIDOR MANAGEMENT RECOMMENDATIONS LEGEND — Hwy 42 City Boundary Lake Marion Greenway Trail Crossing Potential Grade Separation Study Area

- | | | | |
|--|--|--|--|
| Right-in/Right-out Intersection | Intersection Turn Lane or Capacity Improvement | Intersection Pedestrian and Bicycle Enhancements | Future Study Recommended
<i>Locations where follow-up studies are recommended to review improvement options are outlined in red</i> |
| 3/4 Intersection | Freeway Loop Grade Separation | Pedestrian and Bicycle Underpass/Overpass | |
| Roadway Grade Separation | Existing Signal Enhancements | Transit Stop Improvements | |
| Full-access Intersection
<i>Locations will be evaluated for future traffic control needs*</i> | Signal Removal | Frontage/Backage Road Improvements | |



County Line to County Road 5
SEGMENT NEEDS: Most 1999 study recommendations have been implemented. Corridor needs to 2040 focus on transit and pedestrian/bicycle improvements.
RECOMMENDATIONS: A new grade-separated regional trail crossing between Judicial Road and Newton Avenue would provide needed pedestrian/bike connection. Transit stop improvements are suggested at key intersections.

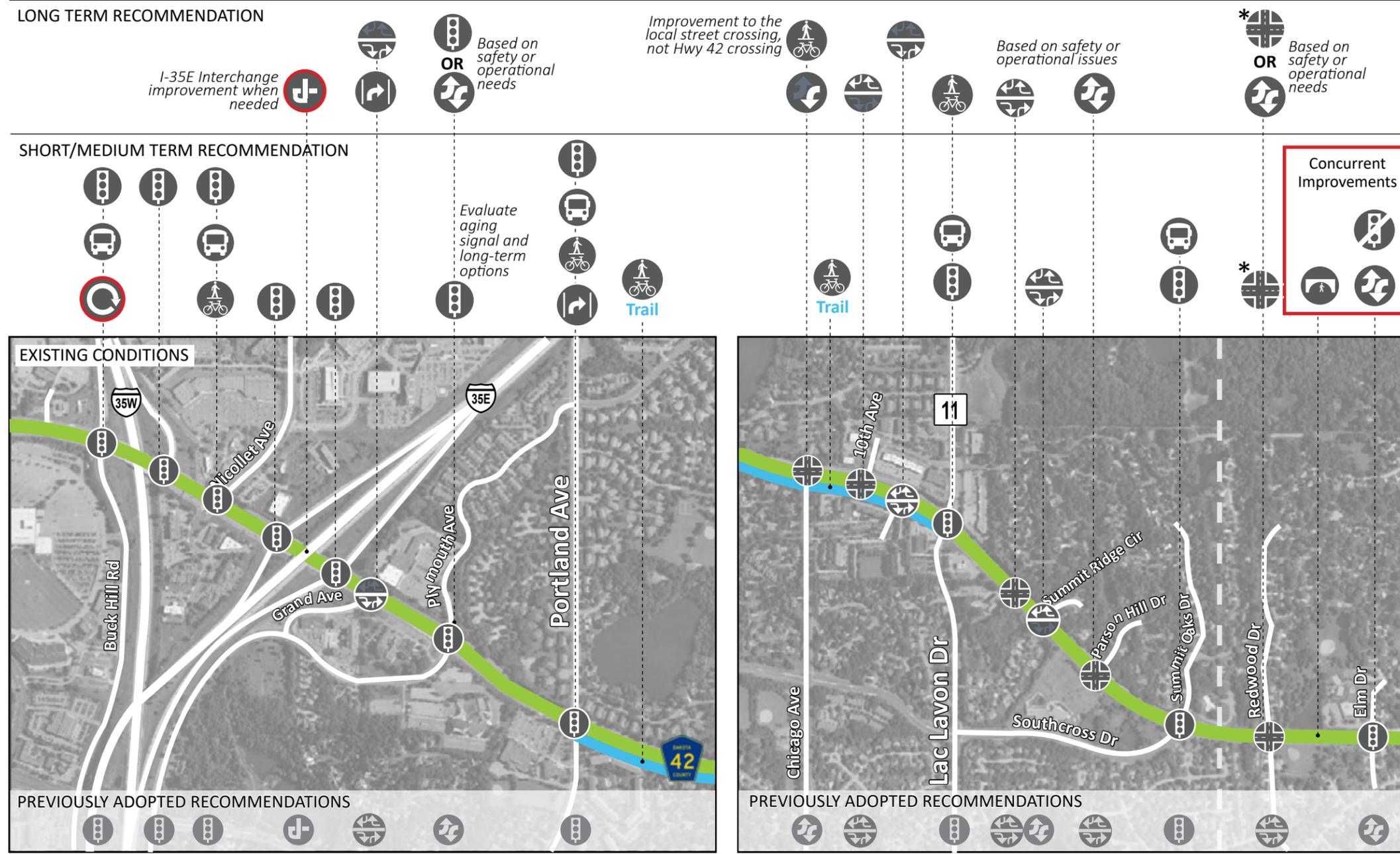
County Road 5 to Aldrich Avenue
SEGMENT NEEDS: Segment includes coordinated signals influenced by the I-35W/I-35E interchange area, causing long delays.
RECOMMENDATIONS: Remove the signal at Irving Avenue to improve corridor mobility and remove the Aldrich signal as part of a recommended grade separation project to serve local traffic, pedestrians and bicyclists (a future study will determine details).
The timing of improvements will depend on redevelopment and future traffic conditions. Planning for new connections and supporting roadways is also essential, especially in implementing the Center Village Redevelopment Vision Area network improvements or other local projects. Improvements at the freeway ramps will provide opportunities to re-time remaining signals and improve operations for this segment.

**Justification for future signals at full-access intersections will be based on assessment of traffic needs.*

Corridor Management Recommendations

2040 Vision Plan Co Hwy 42 and Segments

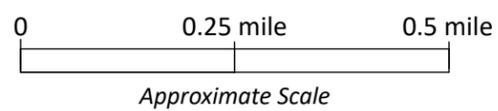
Figure B
City of Burnsville
Section 2 of 2



CORRIDOR MANAGEMENT RECOMMENDATIONS LEGEND

— Hwy 42
 - - - City Boundary
 — New Trail

- | | | | | | | |
|--|--|--|--|--|--|--|
| | Right-in/Right-out Intersection | | Intersection Turn Lane or Capacity Improvement | | Intersection Pedestrian and Bicycle Enhancements | Future Study Recommended
Locations where follow-up studies are recommended to review improvement options are outlined in red. |
| | 3/4 Intersection | | Freeway Loop Grade Separation | | Pedestrian and Bicycle Underpass/Overpass | |
| | Roadway Grade Separation | | Existing Signal Enhancements | | Transit Stop Improvements | |
| | Full-access Intersection Locations will be evaluated for future traffic control needs* | | Signal Removal | | Frontage/Backage Road Improvements | |
| | | | | | | |



I-35W/I-35E Interchange (to Plymouth Avenue)
 SEGMENT NEEDS: The segment experiences weaving and safety issues and high demand for westbound left-turning vehicles to travel north on I-35W and I-35E.

RECOMMENDATIONS: One option includes adding a loop ramp for southbound I-35W to eastbound Hwy 42, which will balance traffic across all lanes and reduce weaving and safety issues. As part of this improvement, Buck Hill would be realigned to utilize a new Aldrich connection to access Hwy 42. Other alternatives should also be considered, including replacing aging signals and coordinating improvements through the segment. Pedestrian and bike accommodations are needed to provide more comfort in this high-traffic volume segment.

Portland Avenue to Lac Lavon Drive
 SEGMENT NEEDS: Current sidewalk/trail gap and multiple full-access locations for local street and private parcels should be considered for a reduction in access.

RECOMMENDATIONS: Extend three lanes eastbound through the Portland Avenue intersection. Coordinate transit improvement opportunities. Fill trail gap from Portland Avenue to Lac Lavon Drive.

Lac Lavon Drive to Southcross Drive
 SEGMENT NEEDS: Multiple full-access locations for local street and private parcels need to be managed.

RECOMMENDATIONS: Consider the option to convert Parson Hill Drive to a 3/4 access in the long term. This would retain U-turn opportunities for traffic movements in this segment while managing safety where needed.

Southcross Drive to Elm Drive
 SEGMENT NEEDS: Close spacing of existing signals at Southcross Drive, Elm Drive and Garden View Drive impacts mobility on Hwy 42. Elm Drive's current and future local street volumes do not justify the need for the signal (also reference Figure C).

RECOMMENDATIONS: Maintain/enhance the signal at Southcross Drive. Keep Redwood Drive as full-access (unless safety issues arise). Remove the Elm Drive signal concurrent with a new pedestrian underpass.

**Justification for future signals at full-access intersections will be based on assessment of traffic needs.*

Figure C
City of Apple Valley
Section 1 of 2

LONG TERM RECOMMENDATION

- * Based on safety or operational needs
- OR

SHORT/MEDIUM TERM RECOMMENDATION

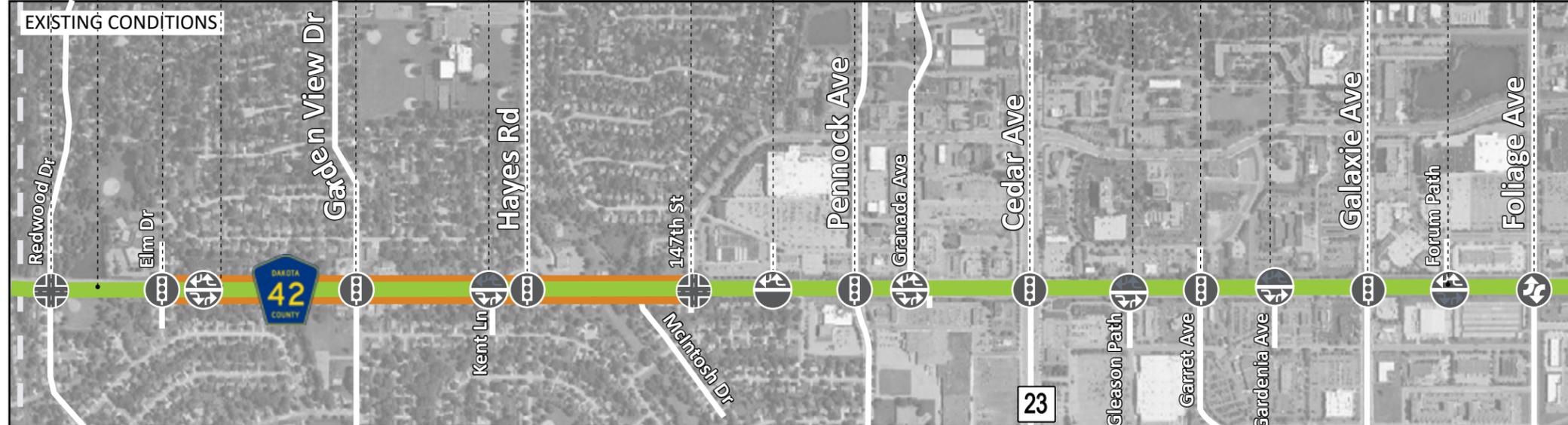
Concurrent Improvements

Coordinated Improvements

+

Consideration of Frontage Road Options

EXISTING CONDITIONS

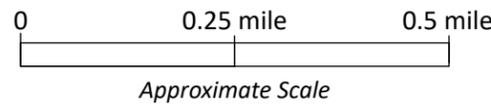


PREVIOUSLY ADOPTED RECOMMENDATIONS



CORRIDOR MANAGEMENT RECOMMENDATIONS LEGEND

- Right-in/Right-out Intersection
- 3/4 Intersection
- Roadway Grade Separation
- Full-access Intersection
*Locations will be evaluated for future traffic control needs**
- Intersection Turn Lane or Capacity Improvement
- Freeway Loop Grade Separation
- Existing Signal Enhancements
- Signal Removal
- Intersection Pedestrian and Bicycle Enhancements
- Pedestrian and Bicycle Underpass/Overpass
- Transit Stop Improvements
- Frontage/Backlog Road Improvements
- Future Study Recommended
Locations where follow-up studies are recommended to review improvement options are outlined in red.



*Justification for future signals at full-access intersections will be based on assessment of traffic needs.

Garden View Drive Intersection

INTERSECTION NEED: There are delays and issues with limited storage for left-turning vehicles on Hwy 42 and blocking vehicles on Garden View Drive using the frontage roads as they wait to turn on to Hwy 42. The signal is aging and modernization is needed.

RECOMMENDATION: Extending the westbound left-turn lane on Hwy 42 would better accommodate future traffic volumes. Upgrades to signals, including pedestrian and bicycle crossing features, and transit stop improvements are recommended.

Elm Drive to 147th Street – Frontage Road Options

SEGMENT NEEDS: Current gap in sidewalk/trail system with pedestrian crossing needs near Elm Drive limit safety and mobility.

RECOMMENDATION: Trails could be added within the existing right-of-way by converting to one-way frontage roads on both sides of Hwy 42. This conversion would also simplify traffic operations. Such options may allow more space for pedestrian and bicycle amenities and boulevard space for vegetation, as well as provide a better buffer between the residential neighborhood and Hwy 42.

INTERSECTION RECOMMENDATION: Remove the Elm Drive intersection signal and replace with a 3/4 access, concurrent with construction of a new pedestrian underpass (reference Figure B).

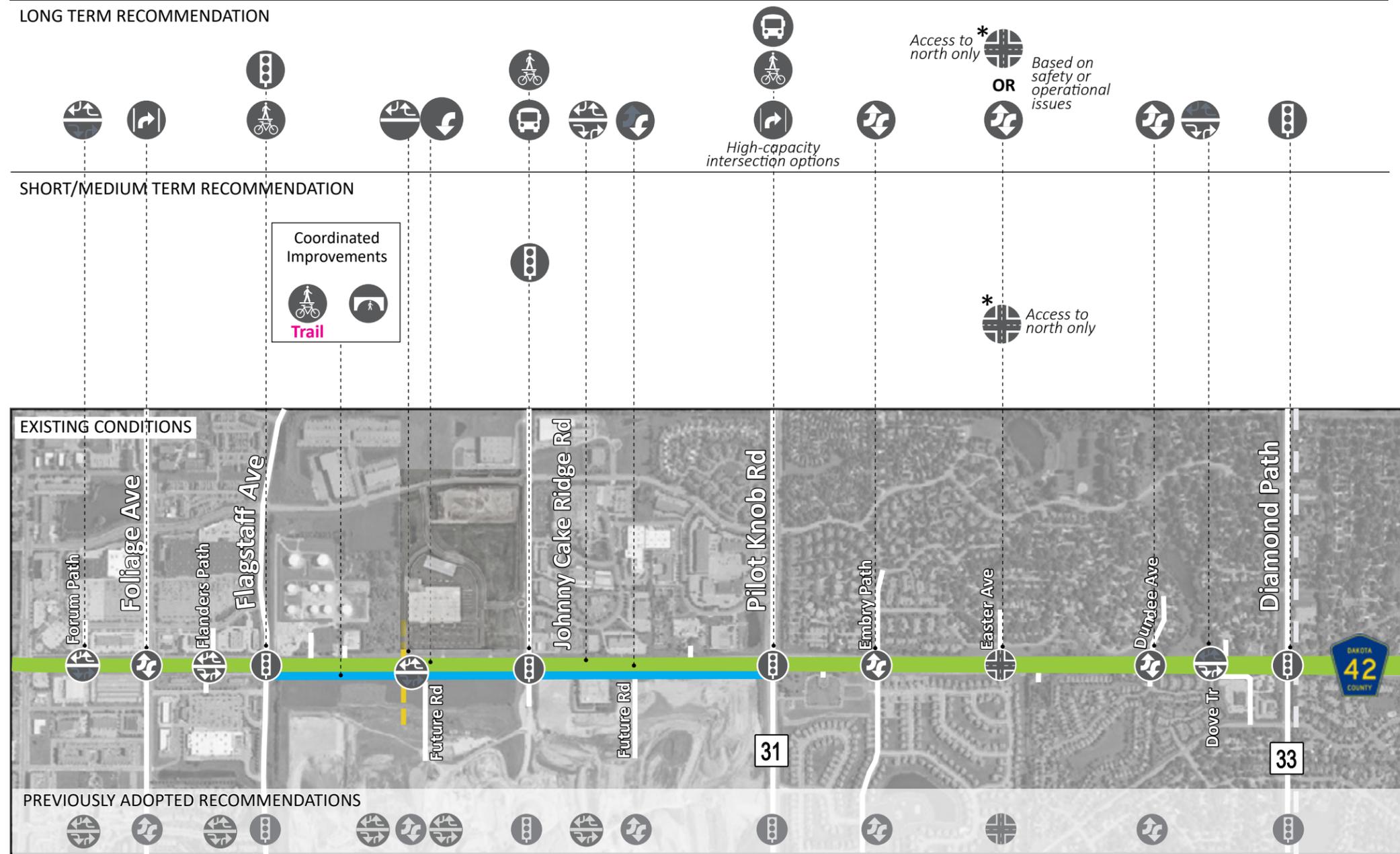
Pennock Avenue to Galaxie Avenue

INTERSECTION NEED: The Cedar Avenue intersection has the highest entering volumes of traffic within the study area. The cycle lengths of adjacent signalized intersections are based on accommodating this one intersection.

SEGMENT NEEDS: The Hwy 42 segment east of Cedar Avenue (to Diamond Path) is at risk of being over capacity by 2040 and beyond. The overall vision and recommendations are intended to manage intersections and limit or defer expansion to six lanes.

RECOMMENDATION: By the year 2040, a grade-separated crossing at Cedar Avenue may be required to manage traffic and safety. Multiple design options exist that would minimize property impacts as well as accommodate future traffic and improve safety for all modes, including pedestrians and bicyclists.

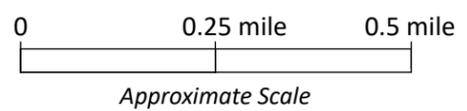
Figure D
City of Apple Valley
Section 2 of 2



CORRIDOR MANAGEMENT RECOMMENDATIONS LEGEND

- Hwy 42
- City Boundary
- North Creek Greenway Trail
- New Trail

- | | | | |
|--|---|--|---|
| <ul style="list-style-type: none"> Right-in/Right-out Intersection 3/4 Intersection Roadway Grade Separation Full-access Intersection
<i>Locations will be evaluated for future traffic control needs*</i> | <ul style="list-style-type: none"> Intersection Turn Lane or Capacity Improvement Freeway Loop Grade Separation Existing Signal Enhancements Signal Removal | <ul style="list-style-type: none"> Intersection Pedestrian and Bicycle Enhancements Pedestrian and Bicycle Underpass/Overpass Transit Stop Improvements Frontage/Backage Road Improvements | <ul style="list-style-type: none"> Future Study Recommended
<i>Locations where follow-up studies are recommended to review improvement options are outlined in red.</i> |
|--|---|--|---|



Flagstaff Avenue to Pilot Knob Road

SEGMENT NEEDS: The future roadway network should be designed as part of the development of the land south of Hwy 42.

The Hwy 42 segment east of Cedar Avenue (to Diamond Path) is at risk of being over capacity by 2040 and beyond. The overall vision and recommendations are intended to manage intersections and limit or defer expansion.

RECOMMENDATION: Complete the planned grade-separated greenway trail between Flagstaff Avenue and Johnny Cake Ridge Road with a combination of 3/4 and right-in/right-out intersections as development fills in.

Pilot Knob Road will be reaching the capacity of the current configuration near 2040. Various high-capacity intersection designs exist and should be considered in coordination with future development. One option would be a median U-turn design that restricts left turns at the Hwy 42 and Pilot Knob Road intersection by directing traffic to take a right turn, navigate through the roundabout to make a U-turn on Pilot Knob Road and continue back through the Hwy 42 and Pilot Knob Road intersection. Other options should also be considered.

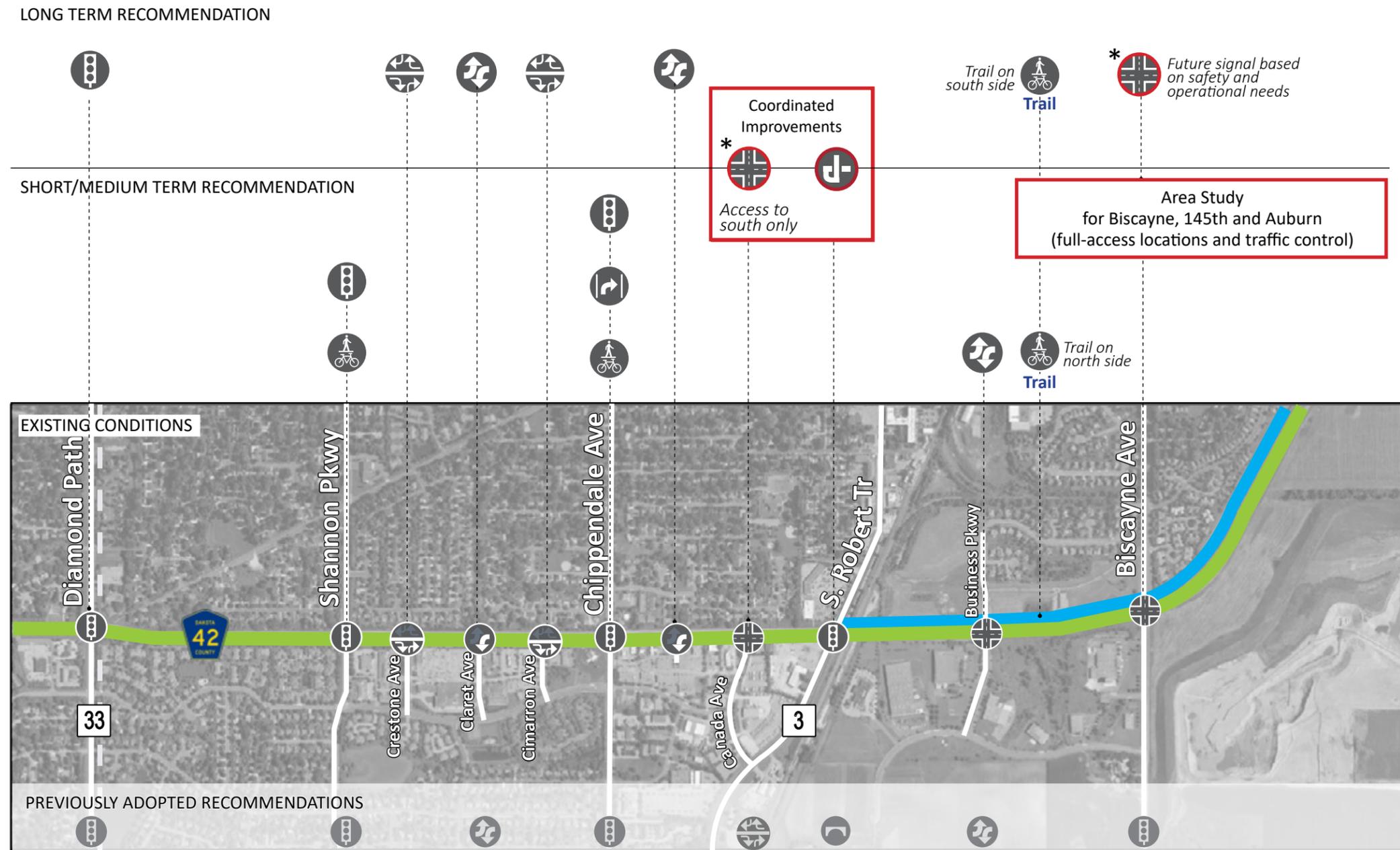
Pilot Knob Road to Diamond Path

SEGMENT NEEDS: This segment has good signal spacing and access control. Easter Avenue, a T-intersection with full access, should be monitored for traffic operations or safety concerns.

RECOMMENDATION: Evaluate options including limiting access at Easter Avenue if safety or capacity issues arise in the future.

***Justification for future signals at full-access intersections will be based on assessment of traffic needs.**

Figure E
City of Rosemount
Section 1 of 3

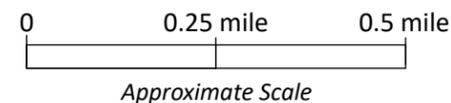


CORRIDOR MANAGEMENT RECOMMENDATIONS LEGEND

— Hwy 42
 City Boundary
 — New Trail

- | | | |
|--|--|--|
| Right-in/Right-out Intersection | Intersection Turn Lane or Capacity Improvement | Intersection Pedestrian and Bicycle Enhancements |
| 3/4 Intersection | Freeway Loop Grade Separation | Pedestrian and Bicycle Underpass/Overpass |
| Roadway Grade Separation | Existing Signal Enhancements | Transit Stop Improvements |
| Full-access Intersection Locations will be evaluated for future traffic control needs* | Signal Removal | Frontage/Backage Road Improvements |

Future Study Recommended
 Locations where follow-up studies are recommended to review improvement options are outlined in red.



Diamond Path to Chippendale Avenue

SEGMENT NEEDS: This segment has good access control and signal spacing. There are demands for pedestrian and bicycle mobility and some history of related safety problems.

RECOMMENDATIONS: Improvement options include signal enhancements, turn lane improvements and enhanced pedestrian/ bicycle accommodations.

Chippendale Avenue to Biscayne Avenue

SEGMENT NEEDS: High-volume intersections and the at-grade railroad crossing near Hwy 3 and S. Robert Trail require continued planning.

RECOMMENDATIONS: The S. Robert Trail intersection will operate for a time with acceptable mobility and levels of delay. However, future traffic volumes will cause additional delay and increase safety concerns.

A grade separation would address these future mobility and safety concerns while also addressing the at-grade railroad crossing east of the intersection. A quadrant roadway configuration would include a Hwy 42 bridge over Hwy 3 and S. Robert Trail and the railroad. Canada Avenue or a similar route would connect to move traffic between Hwy 42 and S. Robert Trail. Other options should also be considered.

Future traffic growth will determine if or when the Biscayne Avenue intersection meets signal justification.

Hwy 3/Robert Trail to Biscayne Avenue

SEGMENT NEEDS: The trail gap between Hwy 3 and Biscayne Avenue limits pedestrian/bicyclist mobility.

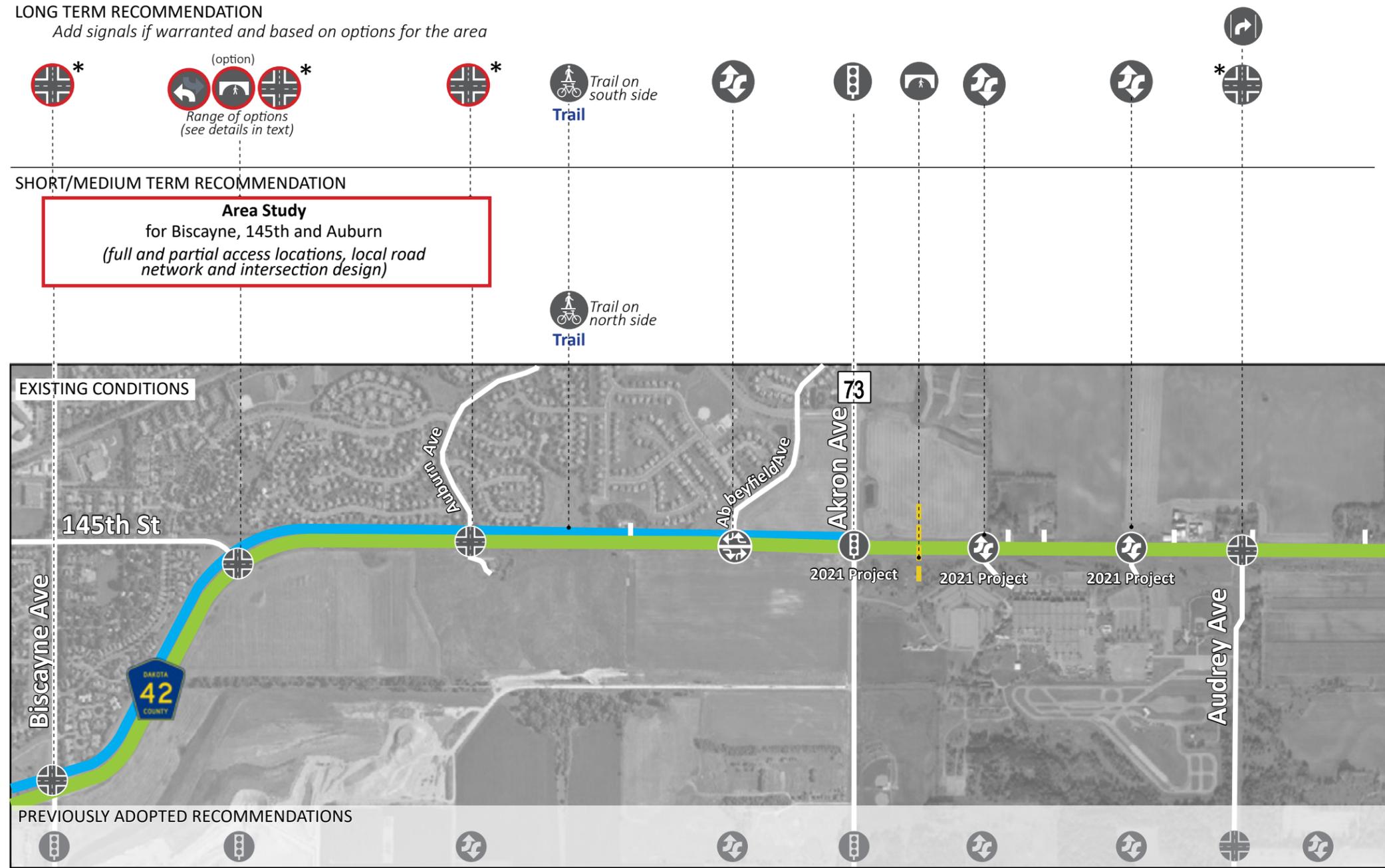
RECOMMENDATIONS: Provide trail along Hwy 42 for pedestrians and bicyclists. The north side of Hwy 42 is the immediate priority, with a trail along the south side with development.

***Justification for future signals at full-access intersections will be based on assessment of traffic needs.**

Corridor Management Recommendations

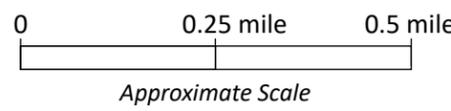
2040 Vision Plan Co Hwy 42 and Segments

Figure F
City of Rosemount
Section 2 of 3



CORRIDOR MANAGEMENT RECOMMENDATIONS LEGEND — Hwy 42 City Boundary Vermillion Highlands Greenway Concept Plan — New Trail

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|--|--|--|--|--|--|--|
| | Right-in/Right-out Intersection | | Intersection Turn Lane or Capacity Improvement | | Intersection Pedestrian and Bicycle Enhancements |
Locations where follow-up studies are recommended to review improvement options are outlined in red. |
| | 3/4 Intersection | | Freeway Loop Grade Separation | | Pedestrian and Bicycle Underpass/Overpass | |
| | Roadway Grade Separation | | Existing Signal Enhancements | | Transit Stop Improvements | |
| | Full-access Intersection
<i>Locations will be evaluated for future traffic control needs*</i> | | Signal Removal | | Frontage/Backage Road Improvements | |
| | | | | | | |



Biscayne Avenue to Auburn Avenue

SEGMENT NEEDS: The intersection of 145th Street is on a tight curve with sight distance issues, and therefore not recommended as a future full-access intersection in the current location and configuration. Biscayne Avenue and Auburn Avenue are more suited for full access, with intermediate partial accesses unless the 145th Street intersection is reconfigured in coordination with development.

RECOMMENDATIONS: Potential changes should be studied further to address safety concerns of full-access locations and the need to accommodate the future roadway network as the area develops. The intersection at 145th Street, in particular, will require a review of system access, location and a range of design options. Issues and long-term options include:

- Change intersection to partial access or offset-T intersections that may use U-turns or T-intersection designs to accommodate left-turn movements from the side streets. If justified based on traffic growth and redevelopment, such options would allow for future signals at Auburn Avenue and Biscayne Avenue.
- Consider relocation and design of the intersection to improve sight distance and geometry for a possible fourth leg to the east. It should be noted that the County would not permit long-term full-access intersections at both 145th Street and Auburn Avenue.
- Other options to be determined, including structure for pedestrians and bicycles nearby if needed with no signal.

Auburn Avenue to Audrey Avenue

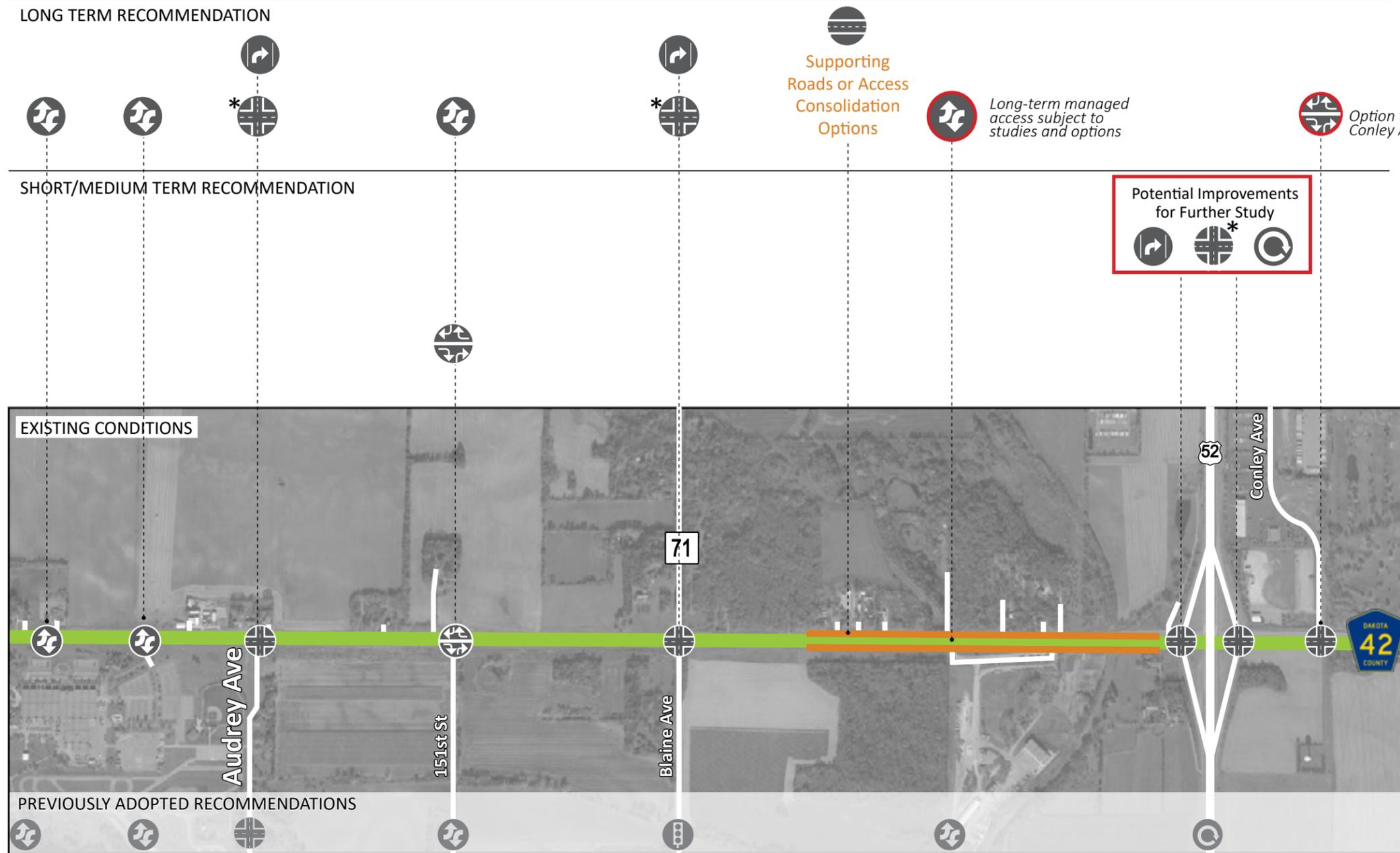
SEGMENT NEEDS: The Akron Avenue signal, added in 2021, provides full signalized access to Hwy 42 for this developing portion of the corridor. Additional trail connections are needed on Hwy 42.

RECOMMENDATION: Potential signals at Auburn Avenue and Audrey Avenue should be considered based on future traffic and new, local roadway connections to Hwy 42. Signal justification will be dependent on actual development and traffic growth.

A higher priority trail gap is on the north side of Hwy 42 between Biscayne Avenue and Akron Avenue. The trail on the south side of Hwy 42 will likely be completed with future development.

***Justification for future signals at full-access intersections will be based on assessment of traffic needs.**

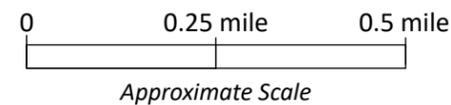




CORRIDOR MANAGEMENT RECOMMENDATIONS LEGEND — Hwy 42 City Boundary Possible Frontage Road Options (consider backage roads as well)

- | | | |
|--|--|--|
| Right-in/Right-out Intersection | Intersection Turn Lane or Capacity Improvement | Intersection Pedestrian and Bicycle Enhancements |
| 3/4 Intersection | Freeway Loop Grade Separation | Pedestrian and Bicycle Underpass/Overpass |
| Roadway Grade Separation | Existing Signal Enhancements | Transit Stop Improvements |
| Full-access Intersection Locations will be evaluated for future traffic control needs* | Signal Removal | Frontage/Backage Road Improvements |

Future Study Recommended
Locations where follow-up studies are recommended to review improvement options are outlined in red.



**Justification for future signals at full-access intersections will be based on assessment of traffic needs.*

Audrey Avenue to Blaine Avenue

SEGMENT NEEDS: Access to Hwy 42 needs to be planned as part of development reviews and the supporting local roadway network.

RECOMMENDATIONS: Future signals at Audrey Avenue and Blaine Avenue and reconfiguration of the intersection of 151st St to a 3/4 intersection should be considered. Similar to the segment to the west, adding signals is considered a long-term need and should be evaluated through coordinated plans. Options for non-signalized and signalized intersections on Hwy 42 should be considered as part of the development of supporting roadways.

Blaine Avenue to Hwy 52

SEGMENT NEEDS: Access to Hwy 42 needs to be planned for future development and improvements to the local roadway network. The many full-access openings and private accesses onto 42 need to be addressed.

RECOMMENDATIONS: In coordination with interchange improvements at Hwy 52 and the recommendation of half-mile spacing of full-access on Hwy 42, long-term access management options should be considered, including frontage and backage roads connecting to Blaine Avenue.

Hwy 52

INTERCHANGE NEEDS: Existing and future congestion and delay is caused by high volumes of vehicles going eastbound and turning left to go northbound on Hwy 52 in the morning and traffic exiting from southbound Hwy 52 in the evening.

RECOMMENDATIONS: Interchange improvements are dependent on traffic growth on Hwy 42 as it relates to the potential realignment of Hwy 55 onto Hwy 42 that MnDOT intends to analyze in a future study. Recommendations from the study will be used to determine future interchange needs.

The previous Hwy 52/42/55 study conducted in 2002 outlined steps and tools to ensure the viability of a future interchange. These include:

- Implementing the Official Map adopted by the City of Rosemount
- Local roadway connection of 138th Street and 140th street (under existing Hwy 52 bridge)
- Relocating Conley Avenue east to meet 0.5-mile access spacing to accommodate future interchange ramps; managing existing location to a right-in/right-out

Interim improvement options to address traffic growth include:

- Dual left-turn lanes from eastbound to northbound Hwy 52
- Traffic signals at the ramps to manage traffic operations as they become justified
- Creating a lane on Hwy 42 solely for southbound right-turning traffic, coming from the exit ramp, to merge onto Hwy 42