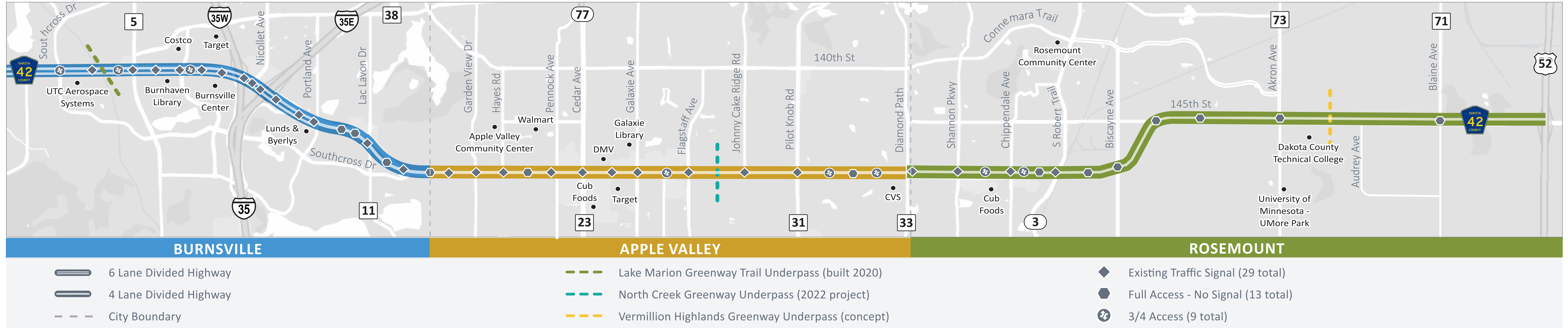




County Highway 42 Visioning Study 2040



What's this study about?

The Visioning Study will provide

20 Year Guidance

for managing 15 miles of Highway 42 from Burnsville to Highway 52 in Rosemount. The Highway 42 Visioning Study will be completed in 2021 and will update the current long-term plan (adopted in 1999 and 2007).

What are the long-term goals?

The study aims to address the following needs and issues on Highway 42:

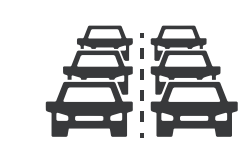
- Safety
- Traffic congestion & delays
- Access to adjacent properties and the local roadway network
- Design for pedestrians, bicyclists and transit riders
- Preparing for future transportation needs (e.g., land development and growth)

The county is working on a plan to address these needs along the corridor while also reducing or deferring the need for expansion of Highway 42.

Corridor Needs and Opportunities

Below are some of the top considerations in each community:

Burnsville



High traffic volumes
Segments in Burnsville carry more than 50,000 vehicles per day.



Plans for rethinking highway connections
The city's redevelopment vision will help create opportunities to rework connections to I-35W and I-35E.

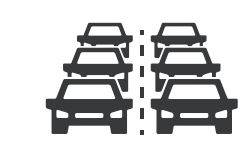


Proven bus transit service opportunities
Highway 42 in Burnsville has a strong history and positive future of serving riders.



Better serve pedestrians and bicyclists
Challenges identified for pedestrians and bicyclists include crossing Highway 42 and cross streets.

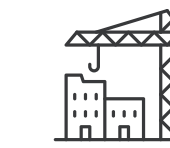
Apple Valley



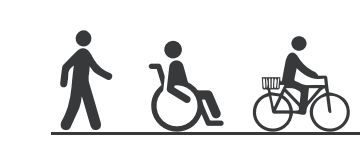
High volume intersection at Cedar Avenue
With almost 80,000 vehicles per day using this intersection, it has direct impact on surrounding intersections. Safety is also a concern based on the amount of crashes.



Aging Infrastructure
The segment from Redwood Drive to Pennock Avenue has the oldest pavement and signals on the corridor.

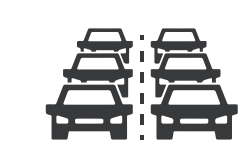


Plans for development
Potential redevelopment and new development will create opportunities to streamline access and traffic.

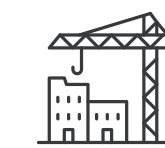


Better serve pedestrians and bicyclists
Challenges identified for pedestrians and bicyclists include crossing Highway 42 and cross streets.

Rosemount



High volume intersection next to railroad crossing
South Robert Trail/Highway 3 intersection is next to an at-grade railroad crossing. With high traffic volumes, a bridge over the intersection and railroad should be considered.



Plans for development and planned highway connections
The city will use recommendations from this study to understand the needs for roadway networks and plan access for future developments.



Better serve pedestrians and bicyclists
Challenges identified for pedestrians and bicyclists include crossing Highway 42 and cross streets, and safety concerns at Shannon Parkway.



Important connection to Highway 52
The interchange at Highway 52 provides an important connection for the region.

Potential Corridor Improvements

Based on the corridor needs and opportunities, a variety of improvements are being considered for vehicle, pedestrian, bicycle and transit use throughout the corridor.

Sample Roadway Improvements

- Right-in/Right-out Intersection
- 3/4 Intersection
- Innovative Intersections
- Grade-Separated Intersections
- Turn Lane Improvements
- Signal Enhancements
- Access Changes

Sample Pedestrian, Bicycle and Transit Improvements

- Cross-section Modifications
- Grade-Separated Pedestrian & Bicycle Crossing
- Transit Improvements
- Pedestrian and Bicycle Crossing Enhancements

What's next?

Dakota County is working with the cities of Burnsville, Apple Valley and Rosemount to set guidelines for improvements at intersections and to address many local issues. The Visioning Study's final recommendations are scheduled for mid-2021.

To learn more, visit www.dakotacounty.us, search *Highway 42 vision* or scan the QR code.



SCAN ME

Documenting Corridor Needs



Goals:

The overall goals of the visioning study were to understand both existing and future needs of the corridor and develop a vision that will:



Reduce or defer the need for County Highway 42 expansion.

Maximize safety and efficient operations for all travelers.

Maintain and improve corridor functions, serving all travelers including motorist, transit, pedestrian, and bicyclists.

Priority Locations:

Locations for improvements were identified using the following criteria as shown in the map above:



Safety Priority Locations

Crashes along the corridor were reviewed to identify locations that have a history of safety concerns. These locations were considered for potential improvements and opportunities to reduce future crashes. In addition to the crash history, intersection access type and traffic control type can play an important role in the safety of each intersection and the corridor. Potential improvements could include a change in the types of access.



Traffic Operations Priority Locations

Locations that currently experience daily congestion or will by the year 2040 were identified as part of the traffic analysis work. These locations were prioritized for the need for improvements in order to improve mobility for those on Hwy 42.



Aging Infrastructure Priority Locations

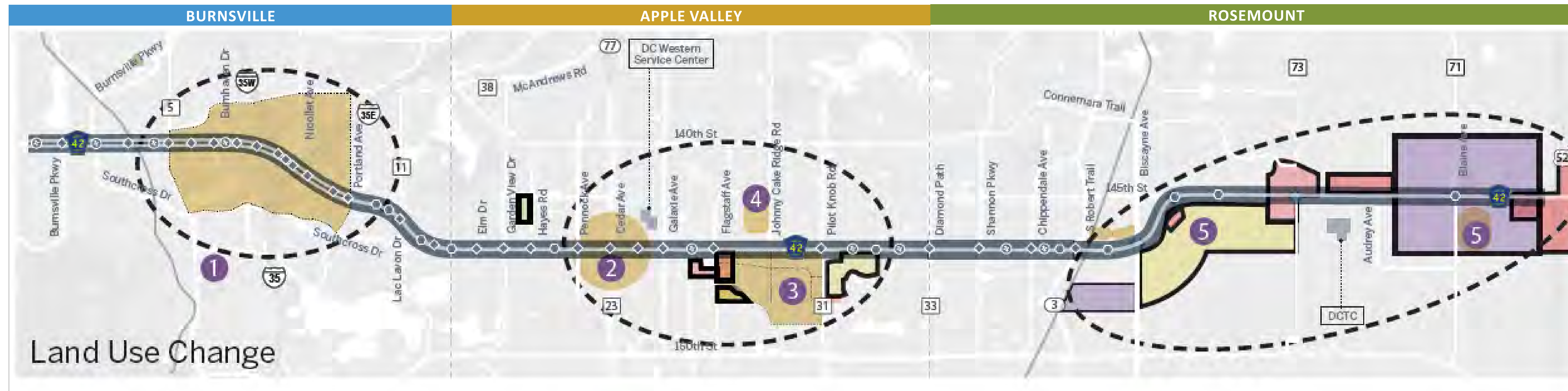
There are numerous locations that have aging infrastructure including old signals with peeling paint, deteriorated sidewalks or broken fencing. These locations will likely need repairs in the near future.



Development Driven Priority Location

Future development adjacent or near the Hwy 42 corridor will not only drive the need for improvements but may also help in implementing changes to the corridor as part of the development process.

Future Corridor Development

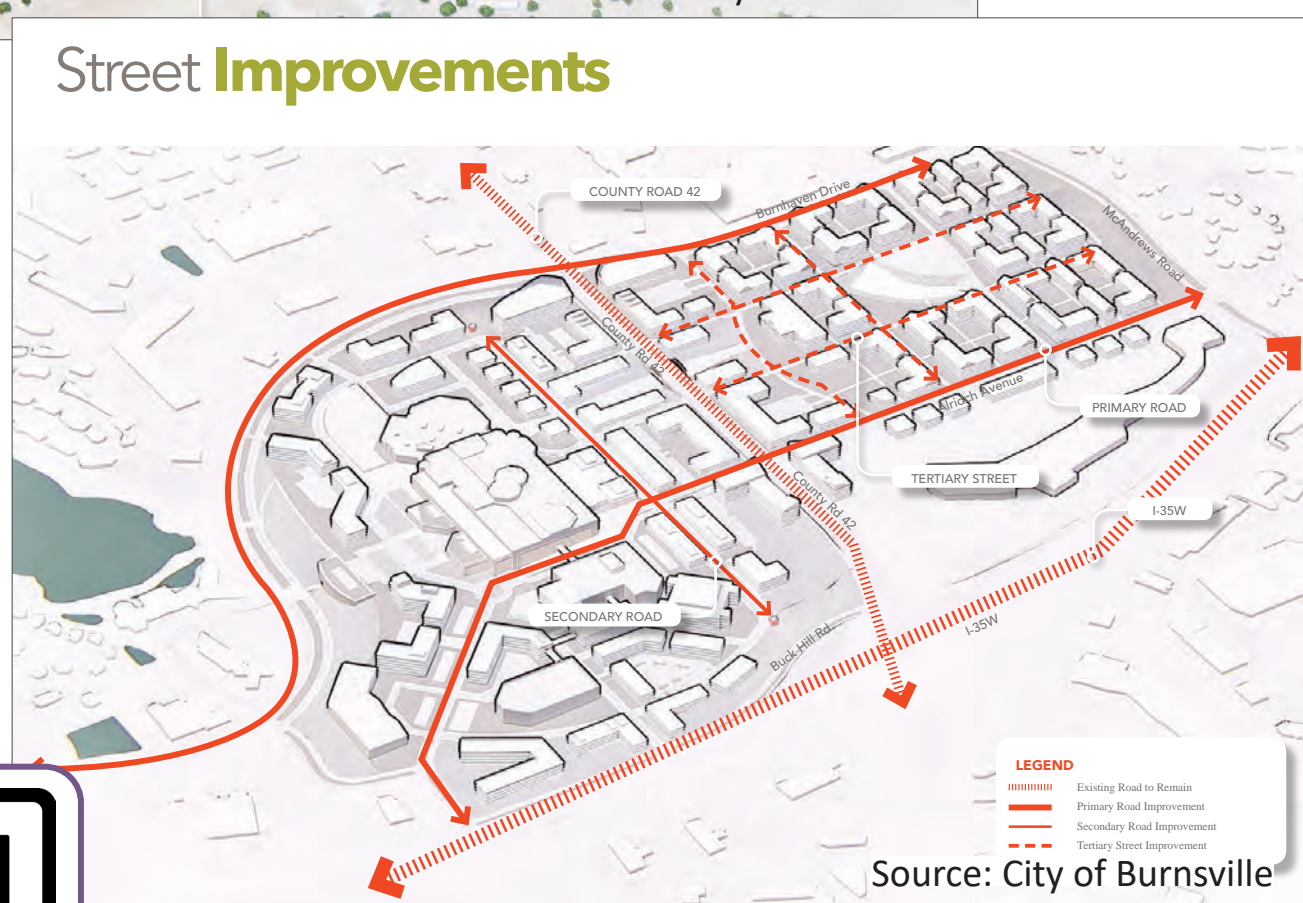


- 1 Burnsville Center Redevelopment Area
- 2 Downtown Apple Valley
- 3 Orchard Place
- 4 Future Menards Hardware Store
- 5 Rosemount and UMore Park

1

Burnsville Center Village Redevelopment Vision

Improvements being recommended for Hwy 42 take into account the Burnsville Center Village Redevelopment Vision. Redevelopment of this area will also increase future transportation demands.



Scan the QR code to learn more about the Burnsville Center Village Redevelopment Vision.

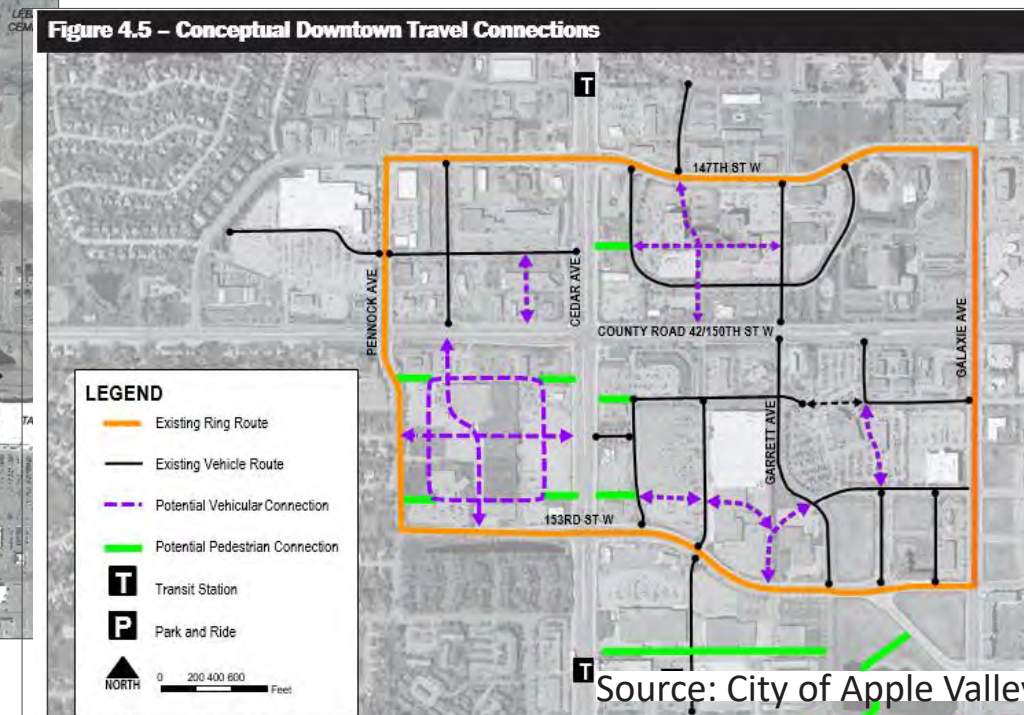
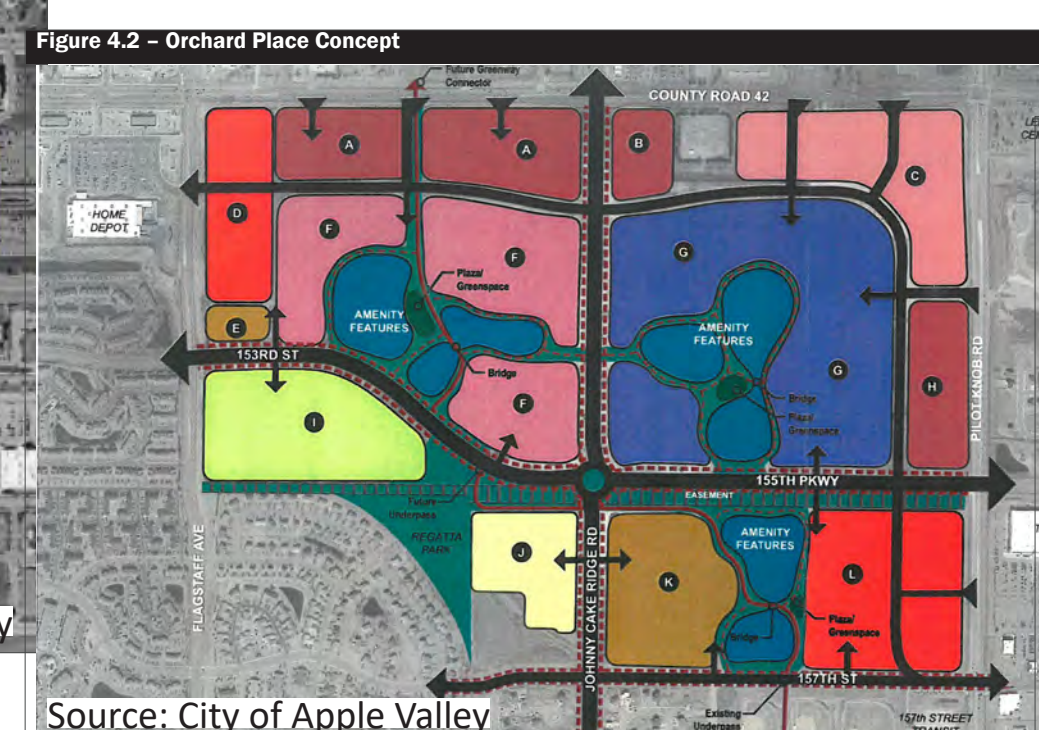
Future Corridor Development

Improvements to Hwy 42 will need to support future corridor development. Planned redevelopment areas were documented as part of the study process. Understanding how these redevelopment areas could both impact or benefit mobility on the Hwy 42 corridor is important for identifying future improvements.

2

Downtown Apple Valley around Cedar Ave

The City of Apple Valley is planning for future redevelopment around the Cedar Ave and Hwy 42 corridor. Their Comprehensive Plan provides details on roadway improvements and potential development locations.

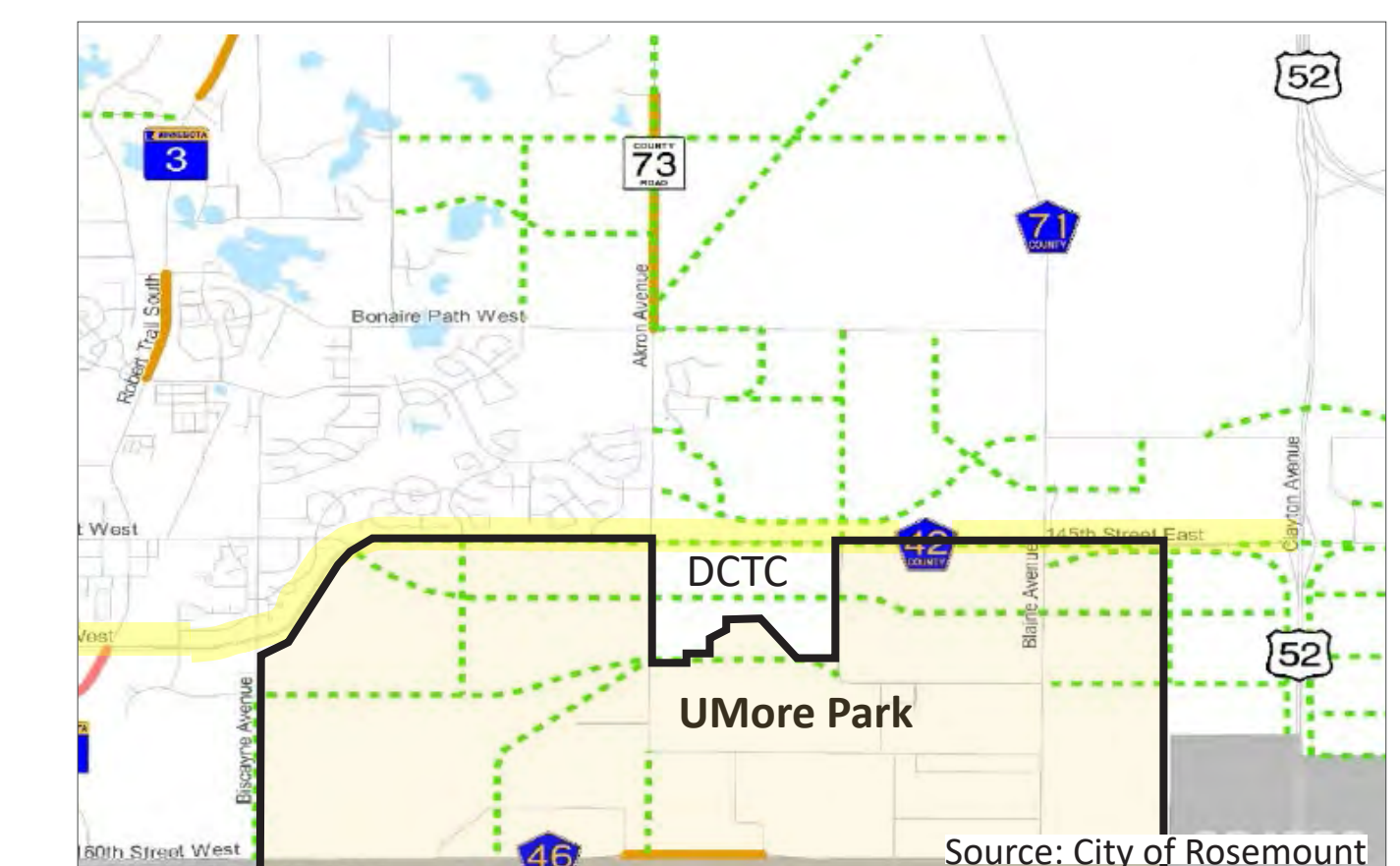


Scan the QR code to learn more about the Downtown Apple Valley development.

5

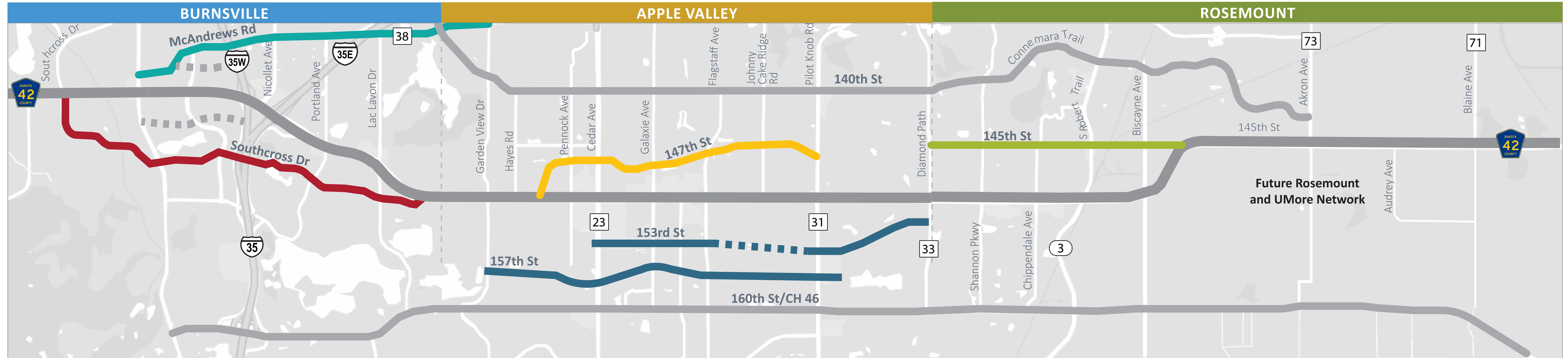
Rosemount and UMore Park

The City of Rosemount and University of Minnesota will develop property that could attract 20-30,000 people in the next 30 years. The Hwy 42 Study is reviewing improvements to accommodate the potential growth on the east side of the corridor.



Scan the QR code to learn more about the Rosemount and UMore Park development.

Recommendations - Supporting Roadway and Technology



Goal: Support Roadway and Technology

Prepare for and utilize new technologies to manage traffic and improve safety on the Hwy 42 corridor.

Supporting Roadway Network Focus Areas

Burnsville

The Southcross Dr connection allows travelers to bypass the most congested segment of the corridor in the I-35E and I-35W interchange area. Potential improvements to Southcross Dr could use signal technology to improve the travel time.

Apple Valley

The Cedar Ave and Hwy 42 intersection is the most congested intersection on the corridor. Improvements to the local streets and signals could reduce traffic demand. Coordinating signals on the local streets to improve travel times is an example of improvements to be considered.

Rosemount

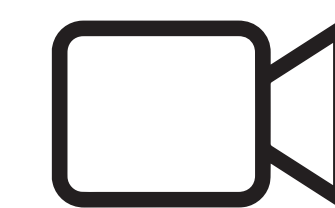
The City of Rosemount and Dakota County will plan for a robust local roadway system that will accommodate future development. Future access on Hwy 42, including locations of future signals and 3/4 access, will be consistent with previous recommendations adopted in 2007.

Recommendations



Stay connected

Continue implementing corridor-wide fiber system built with enough capacity for future needs.



Camera management

Camera system for both incident management and real-time traffic management.



Messaging systems

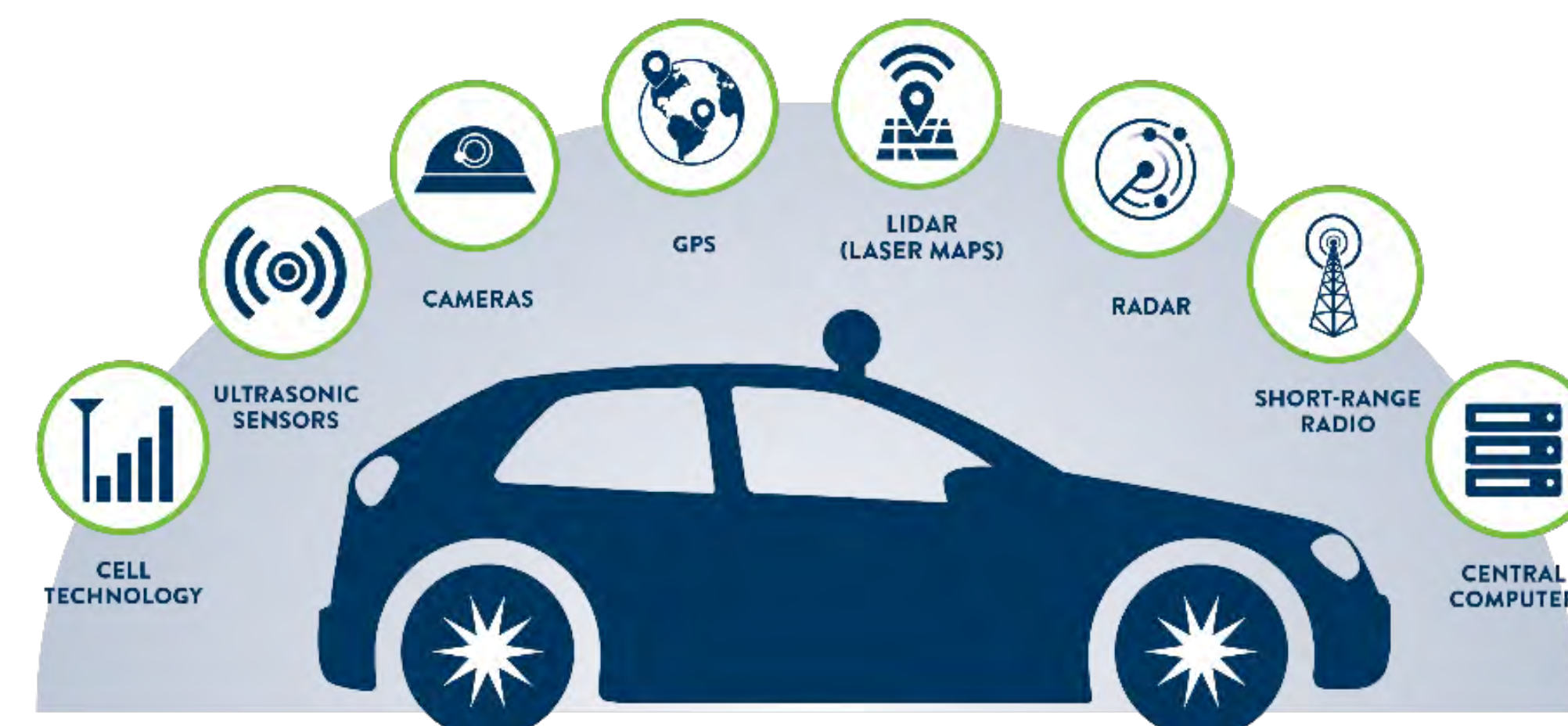
Real-time messaging systems (dynamic messaging signs or future connected vehicle displays).



Adapt

Signal systems with the ability to adapt to future technology and needs.

Automated Vehicle Technology

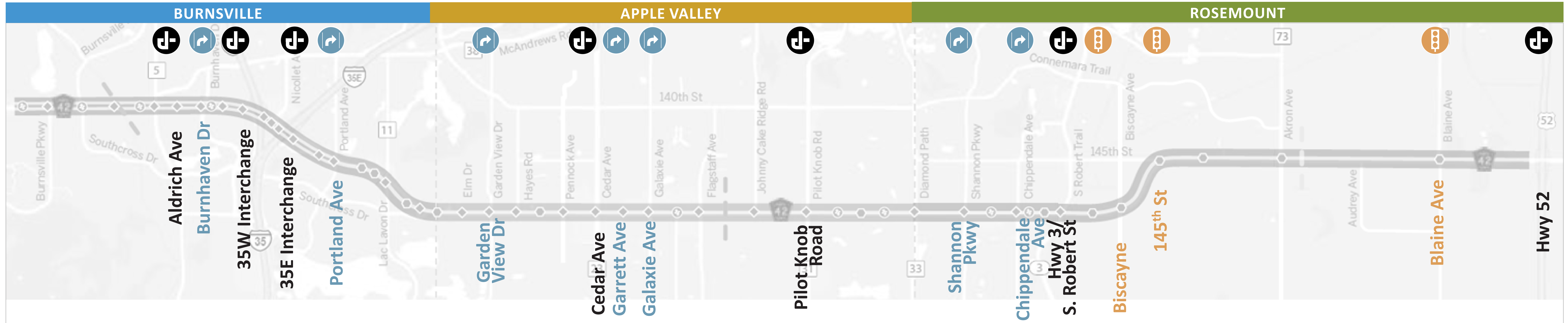


Source: MnDOT



Scan the QR code to learn more connected and automated vehicles.

Recommendations - Roadway Improvements

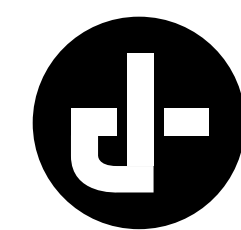


Goal: Improve mobility and safety at intersections

Be ready to manage Hwy 42 corridor mobility and safety at the highest volume intersections that will experience the most congestion and delay.

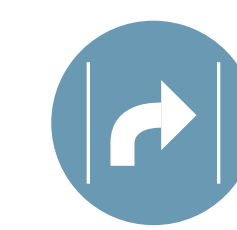
Considering new ideas with bridges/structures for the highest-volume intersections that will help prepare for the future.

Recommendations



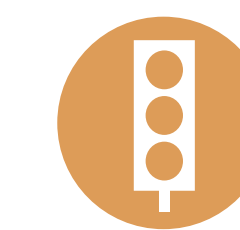
Grade-separations, freeway loops or innovative intersections

are recommended at the locations with the highest volumes. These types of improvements provides more capacity to help improve corridor-wide mobility.



New turn lanes and lengthening existing turn lanes

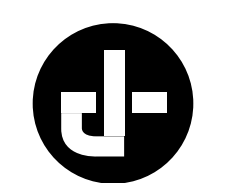
would add capacity at existing signalized intersections and help reduce delay experienced by both Hwy 42 and crossroad traffic at these intersections.



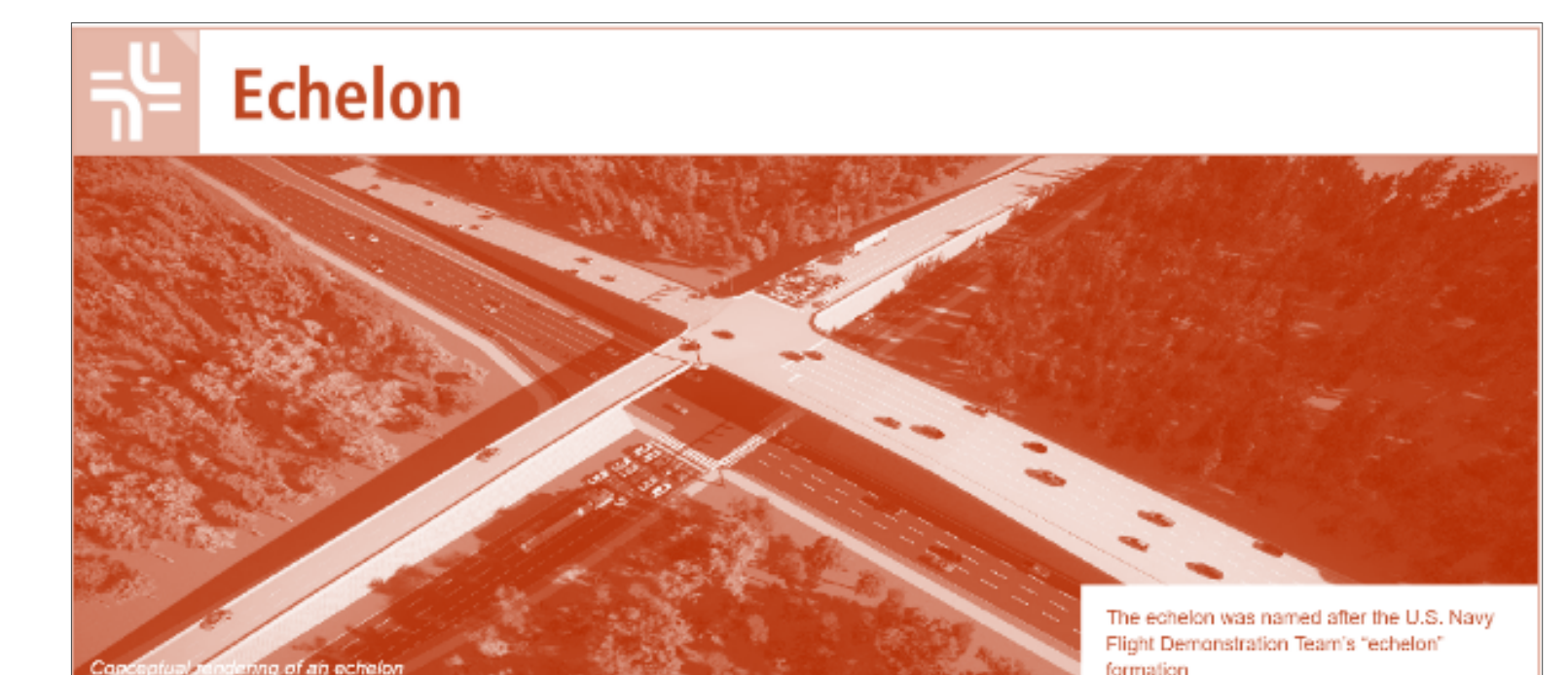
Appropriate spacing for future signals

allows local street systems to be planned to accommodate traffic and helps optimize mobility on Hwy 42.

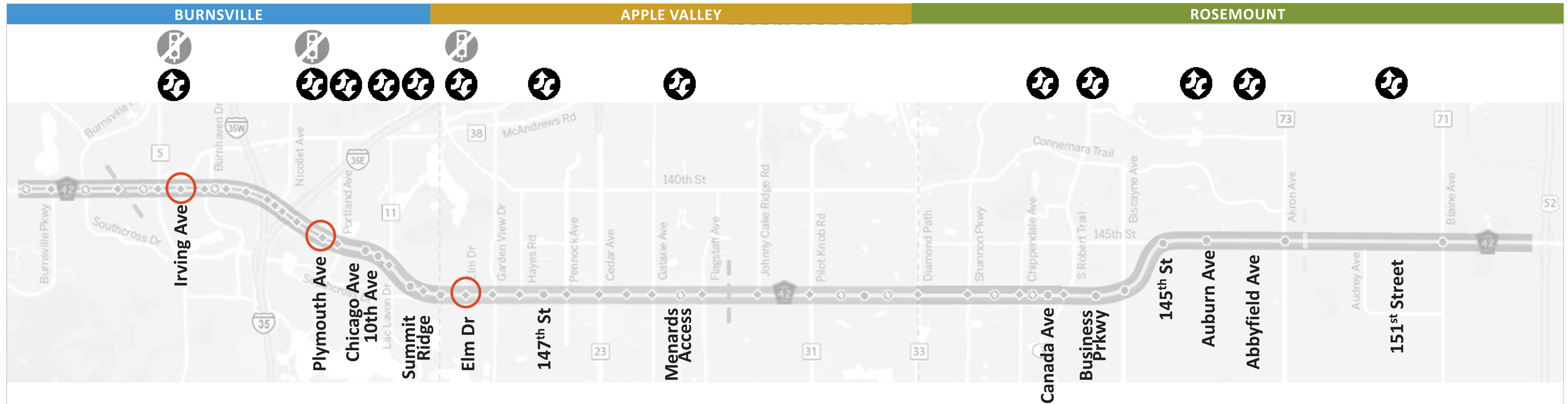
(See map above to view recommended improvement areas.)



The following are examples of grade separated intersection designs to accommodate for higher traffic volume:



Recommendations - Access Improvements

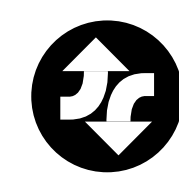


Goal: Reduce conflicts

Improve Hwy 42 corridor mobility and safety by reducing conflicts on the corridor.

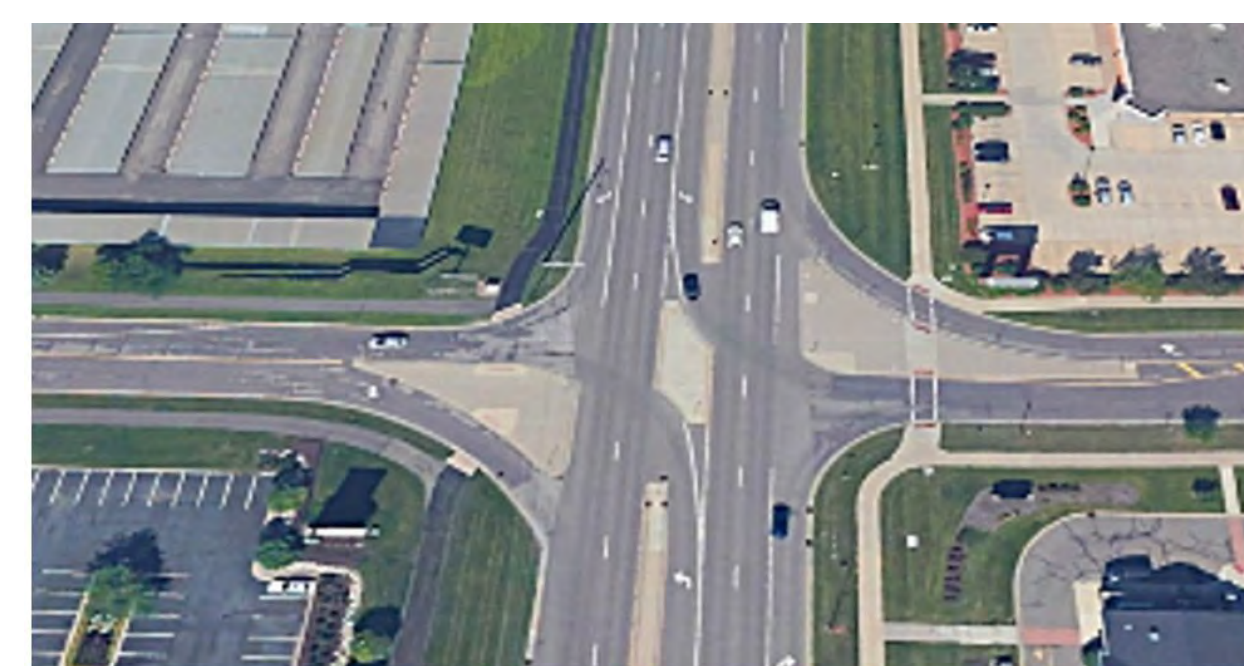
Overall corridor mobility and safety can be improved by reducing signals and changing intersections to 3/4 access when and where appropriate.

Recommendations



Implementing 3/4 intersections

3/4 intersections reduce the potential for crashes by restricting vehicles crossing or turning left onto Hwy 42. This will also reduce traffic on Hwy 42.



Removing traffic signals

Removing signals helps corridor mobility by eliminating delays at locations that can operate efficiently as 3/4 access intersections. 3/4 intersections experience fewer crashes than signalized intersections.



Assessing local traffic patterns

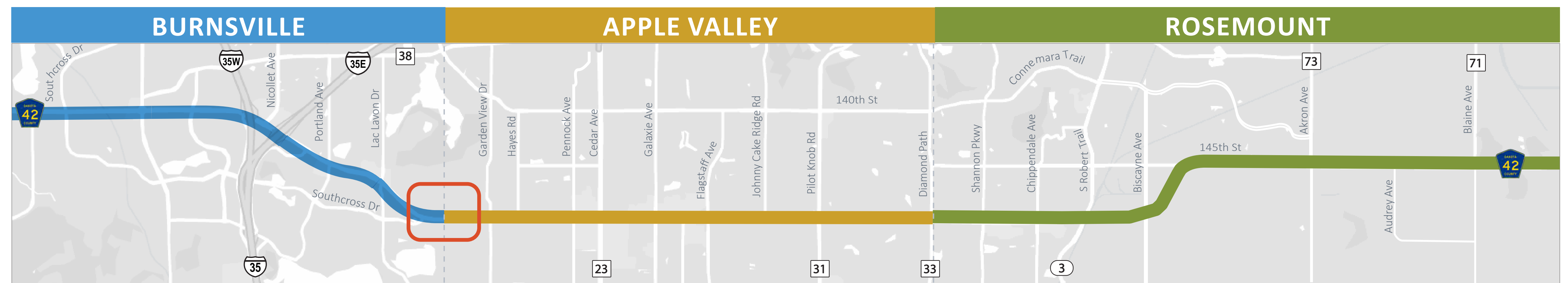
Additional consideration will be given to change local traffic patterns. Some locations may have additional local street improvements included in the recommendations.

(See map above to view recommended improvement areas.)

Recommendations - Southcross Dr to Elm Dr



Burnsville | Apple Valley



Existing Conditions & Issues

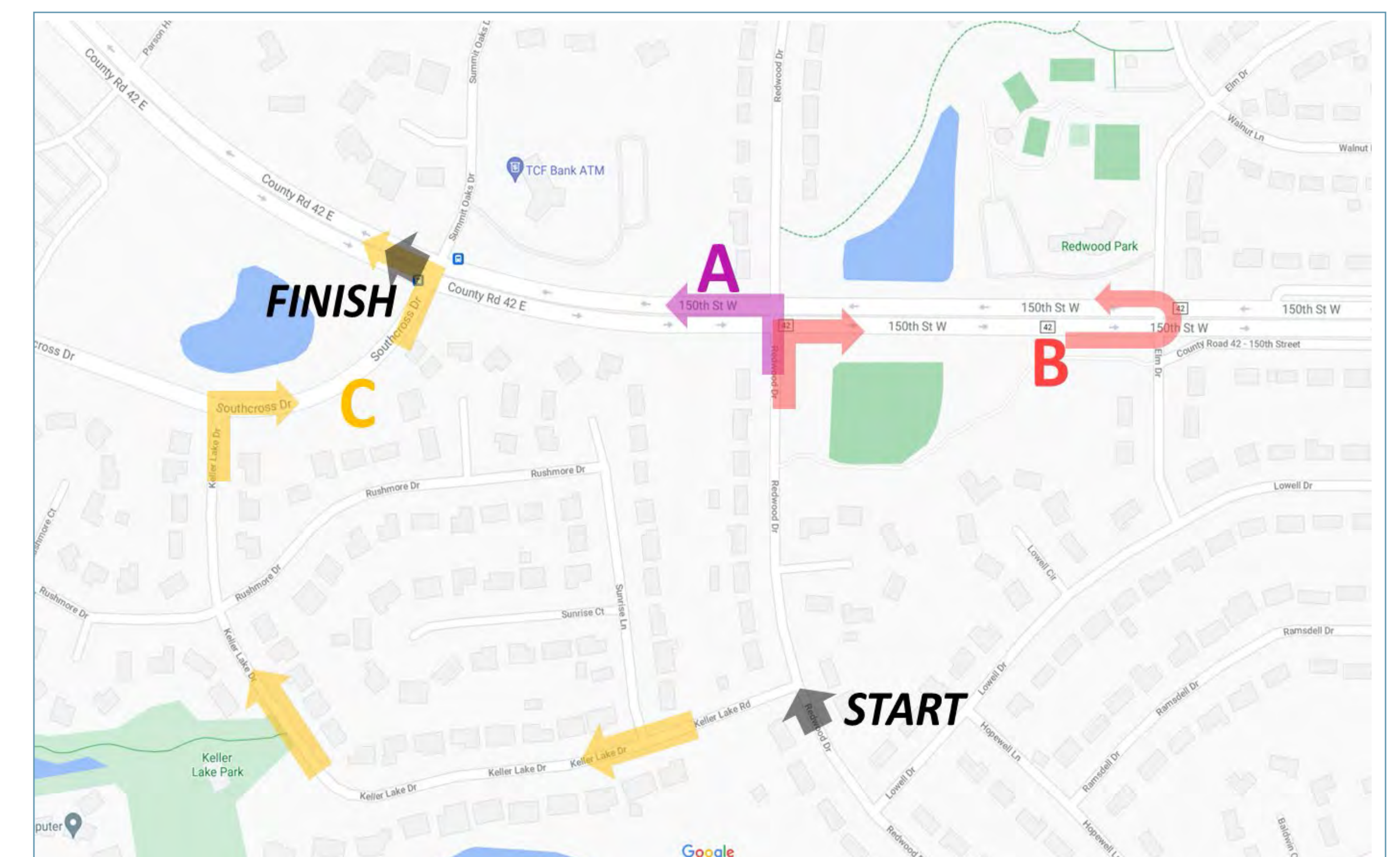
- The close spacing of signalized intersection in this part of the corridor means additional congestion and delay.
- Previous outreach documented resident's concerns about removing the signal and the loss of a safe crossing for pedestrians and bicyclists.
- There were also concerns from residents on Keller Lake Dr about closure of Redwood Drive.
- The location of Redwood Park on both sides of Hwy 42 emphasize further the need to accommodate pedestrians and bicyclists in this area.

Recommendations

Recommendation	Southcross Dr	Redwood Dr	Elm Dr
Existing Intersection Control			
1999 Study Recommendation			
2021 Study Recommendation			

Key Points

- Keeping Redwood Dr as STOP controlled is different than the 1999 Study recommendation.
- The signal at Elm Dr would only be removed if a pedestrian & bicycle bridge or tunnel were constructed.

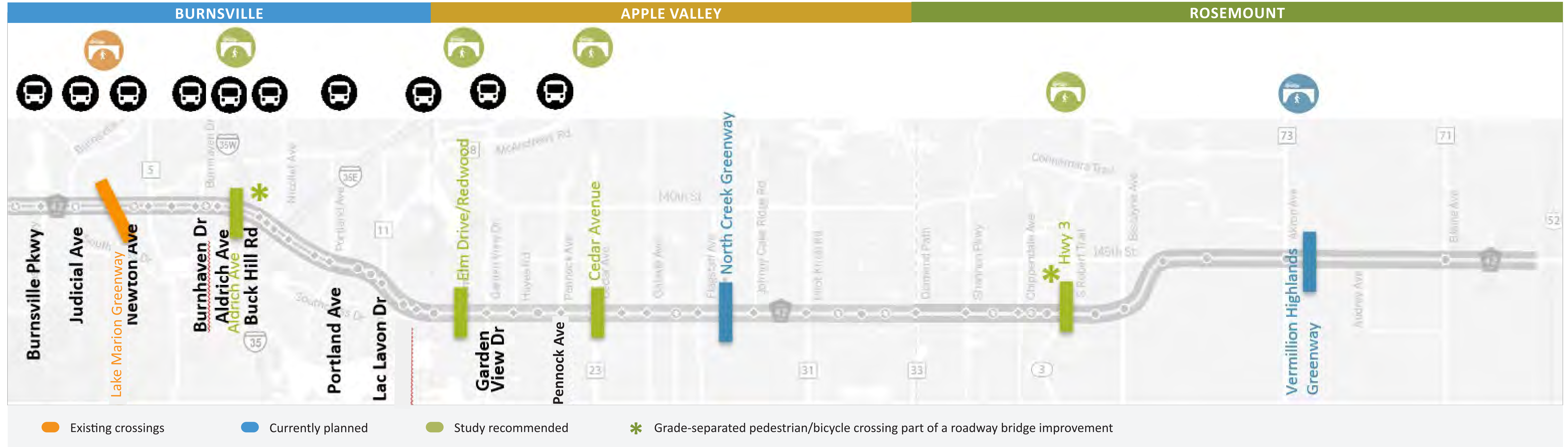


Alternative routes - Redwood Dr NB to Hwy 42 WB

With the stop sign remaining at Redwood Drive it is important for drivers to know that:

- Other routes can be utilized to help provide a safer maneuver than the current left out of Redwood Dr (Option A).
- For example, a driver can make a right turn and then a U-turn at Elm Dr (Option B).
- Option C, Keller Lake Road, takes more time than Option B based on our testing.

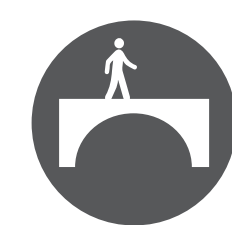
Recommendations - Transit and Pedestrians



Goal: Improve Hwy 42 crossing for pedestrians and bicyclists

Improve ability for pedestrians and bicyclists to cross Hwy 42 unimpeded by Hwy 42 traffic and provide more transit amenities.

Recommendations



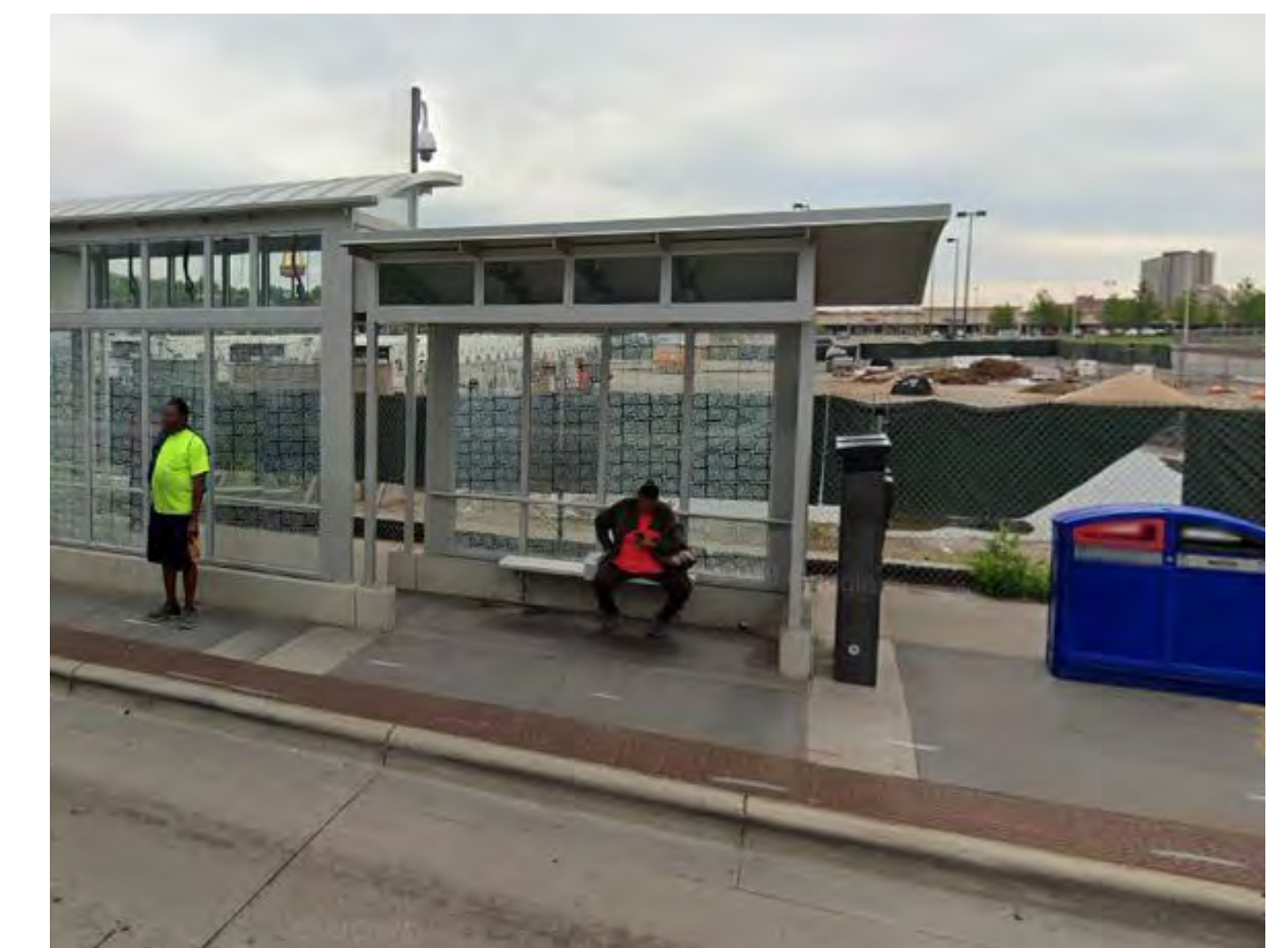
Build grade-separated crossings

Locations that may benefit from grade-separated crossings (either a pedestrian bridge or tunnel).



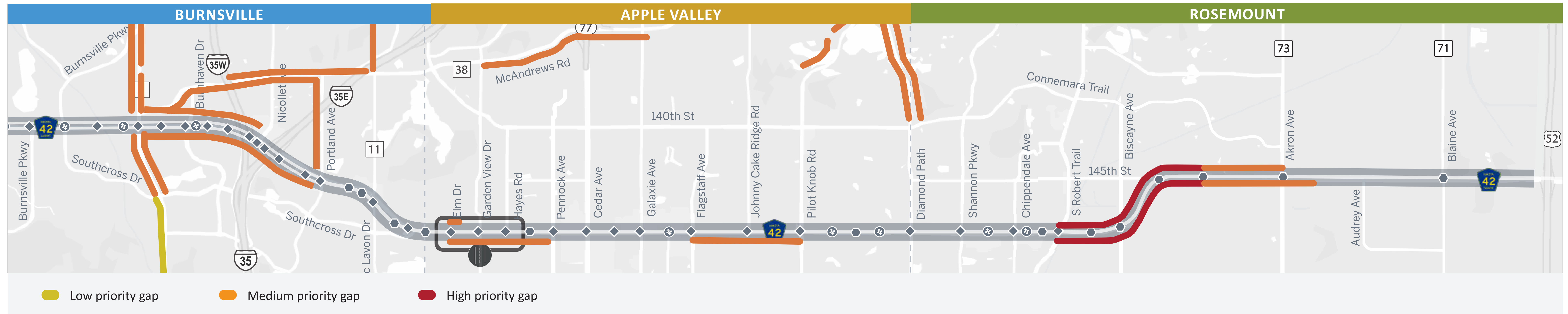
Install bus stop amenities

Locations that may benefit from bus stop amenities such as shelters, benches, lighting, or improvements to sidewalks and trails. This will provide better pedestrian and bicycle access to bus stop locations.



(See map above to view recommended improvement areas.)

Recommendations - Pedestrian and Bicycle Connections



Goal: Provide consistent connections

Provide consistent sidewalk and trail connections parallel to Hwy 42.

Providing consistent connections provides better conditions for those that rely on pedestrian, bicycle and transit amenities for mobility. Filling current gaps in the system provides opportunity for more users to access the corridor and balance multimodal needs.

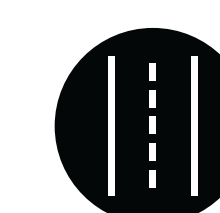
Recommendations

Below are some recommendations to create consistent connections:



Close sidewalk and trail gaps

Provide adjacent sidewalk or trail connections for existing gaps in the system. As the map above shows, there are needs throughout the corridor to either provide sidewalk/trails where they don't exist today or improve by widening existing sidewalks to accommodate bicycles.



Potential one-way frontage roads

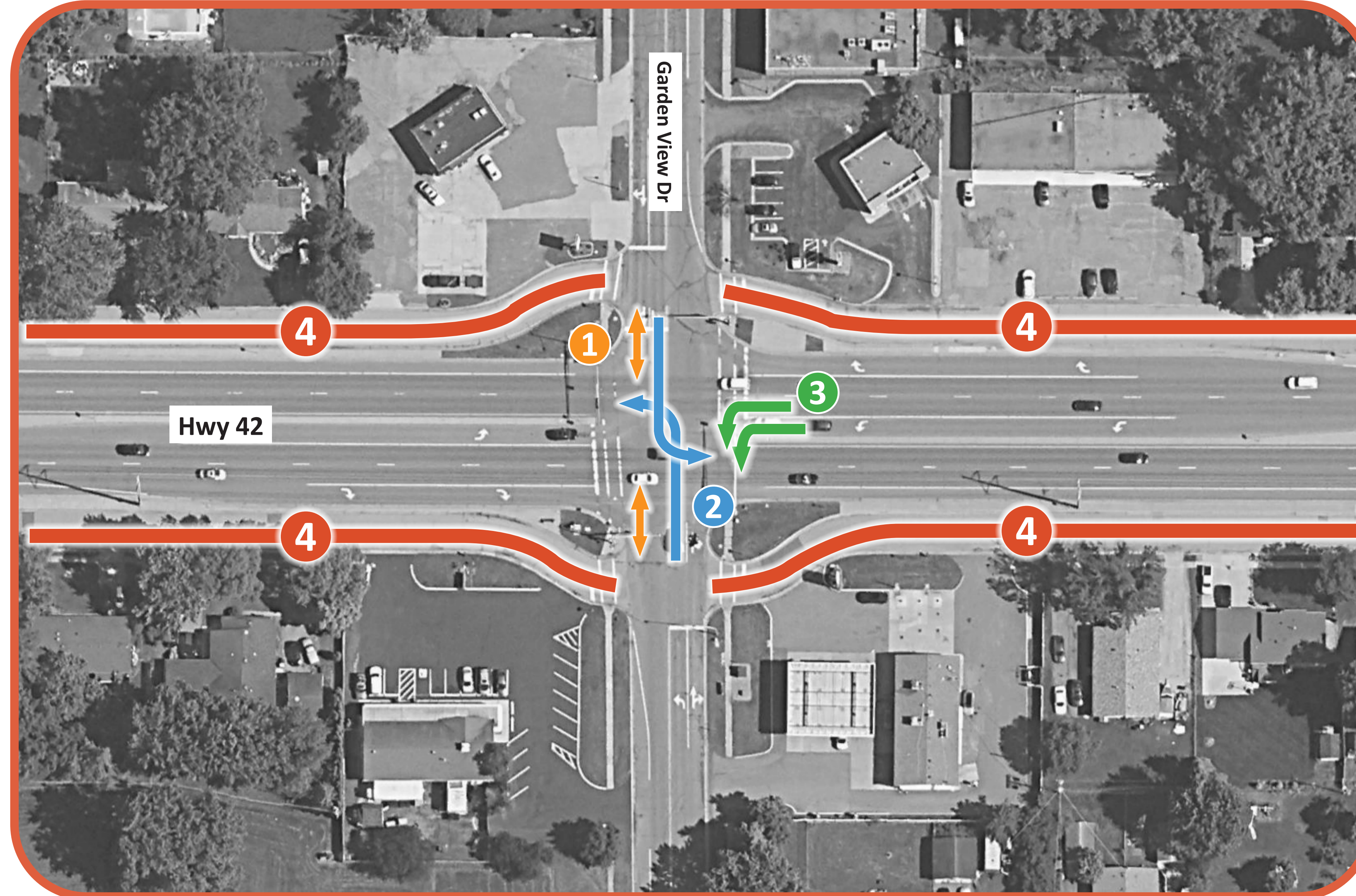
Potential one-way system for the frontage roads between Elm Drive and Hayes Road could provide space for trails in this tightly constrained part of the Hwy 42 corridor.



See the "One-way frontage road concept" board to learn more.

(See map above to view recommended improvement areas.)

Planning for Garden View Dr



Existing Issues at Garden View Dr

- 1 Closely spaced frontage roads
- 2 Overlapping of left turns, no left-turn arrows; visibility/safety
- 3 Possible need for more westbound left-turn capacity (2040 forecast)
- 4 Traffic movements and access on frontage roads

Garden View Drive and Hwy 42 Intersection, looking southwest.



Garden View Drive and Hwy 42 Intersection, looking east.



Garden View Drive and Hwy 42 Intersection, looking west.



One-way Frontage Road Concept



Goal:
Provide safe connections for everyone walking, rolling, biking and driving.

Existing conditions



One-way frontage road concept

Potential Benefits

- Sidewalk/trail for pedestrians and bicyclists
- More green space
- Increased safety for all

