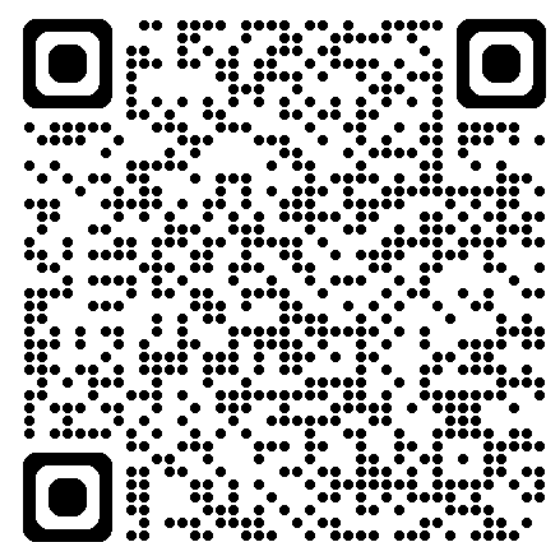


WELCOME

CITY OF CASTLE PINES

Happy Canyon Interchange Public Open House



Partners in the development of the Happy Canyon Interchange



COLORADO
Department of Transportation

HISTORY OF IMPROVEMENTS

2015

Douglas County initiated the Happy Canyon Road / I-25 Improvement Project to identify long term interchange improvements.

2022

The City of Castle Pines decided to move forward with the Happy Canyon Interchange Project.

2024

A new roundabout was constructed to connect Lagae Road and Happy Canyon Road to I-25.

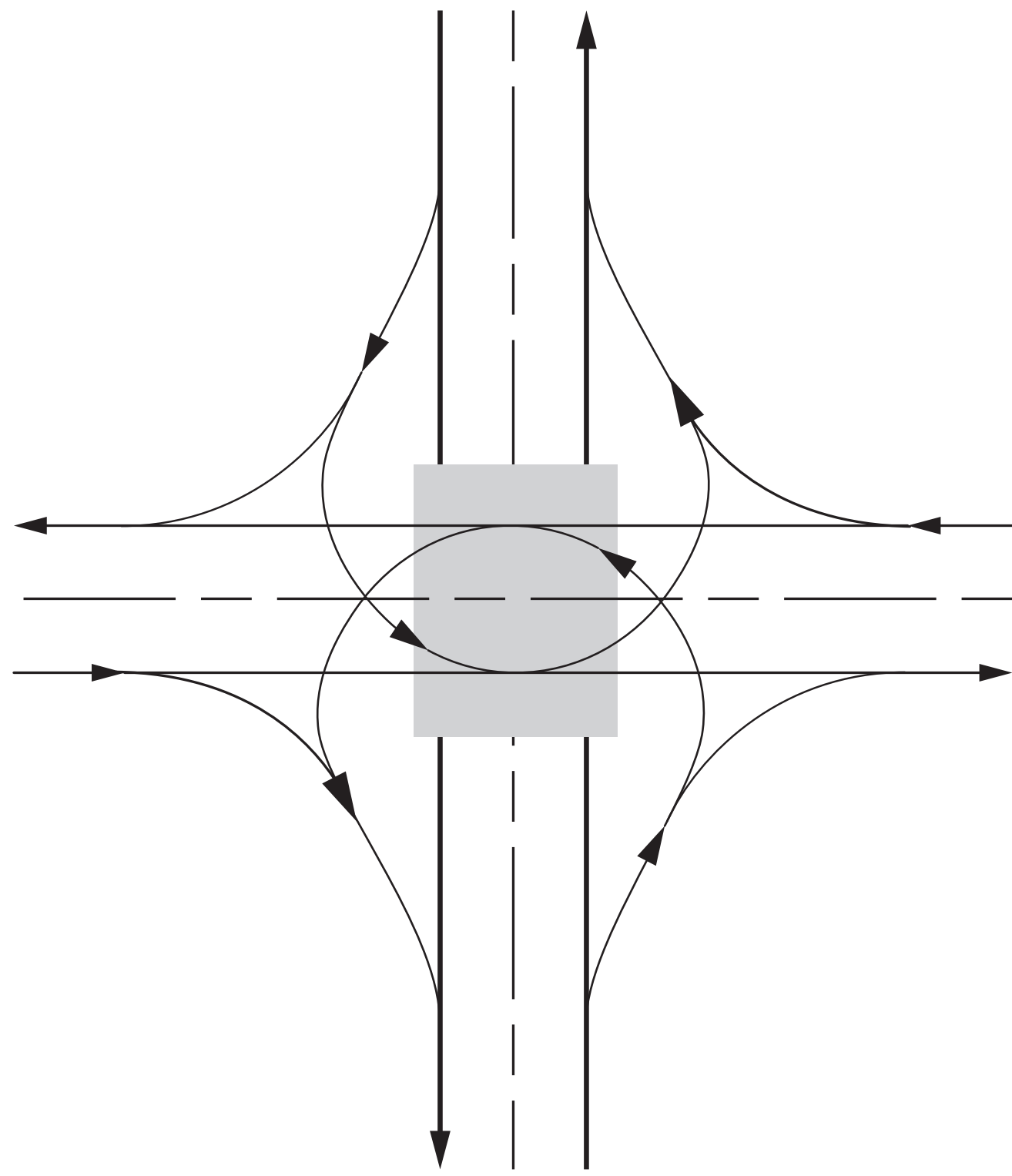
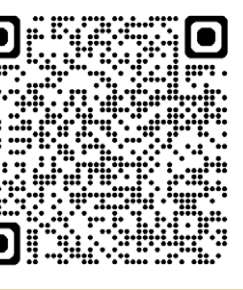
Previous Studies Related to the Happy Canyon Interchange

- South I-25 Corridor and US 85 Corridor Final Environmental Impact Statement
- Castle Pines Parkway and Happy Canyon Road Final System Level Study
- I-25 Planning and Environmental Linkages

Transportation Framework

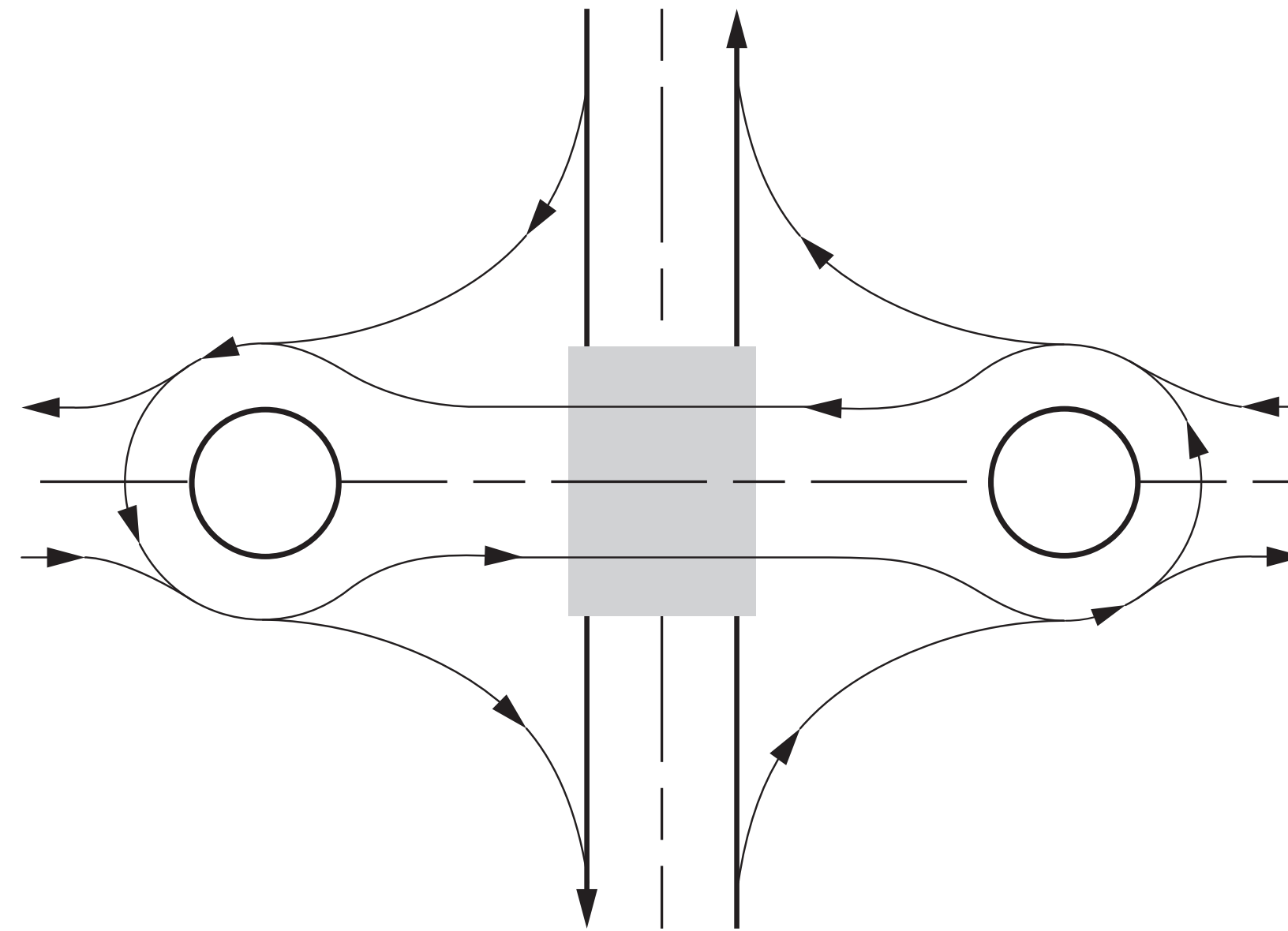


ALTERNATIVES CONSIDERED



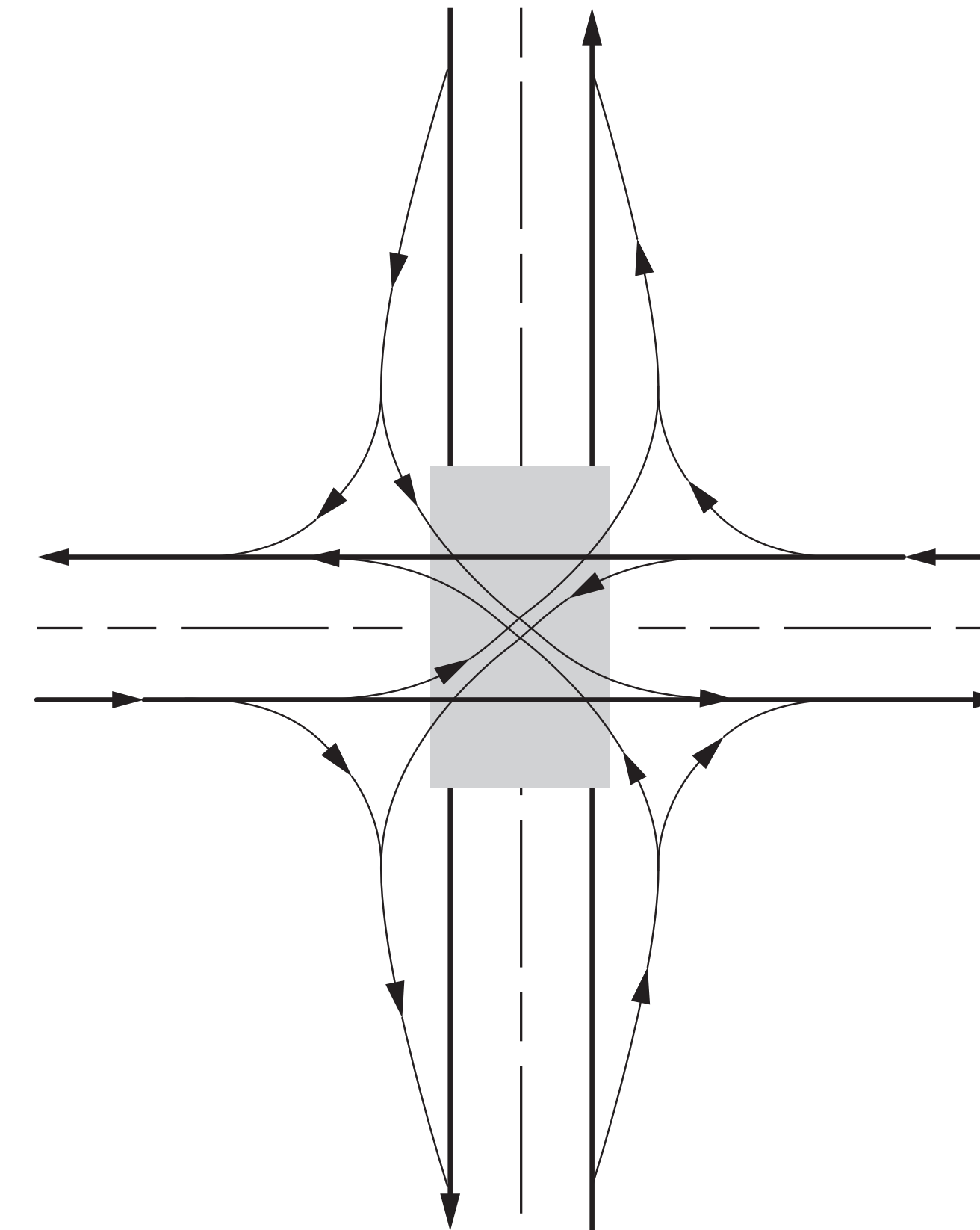
Tight Diamond with Traffic Signals

- Long delays at signalized ramp intersections
- Long queues for left turns onto the ramps
- Failing levels-of-service at signalized ramp intersections for 2050 traffic volumes



Tight Diamond with Roundabouts

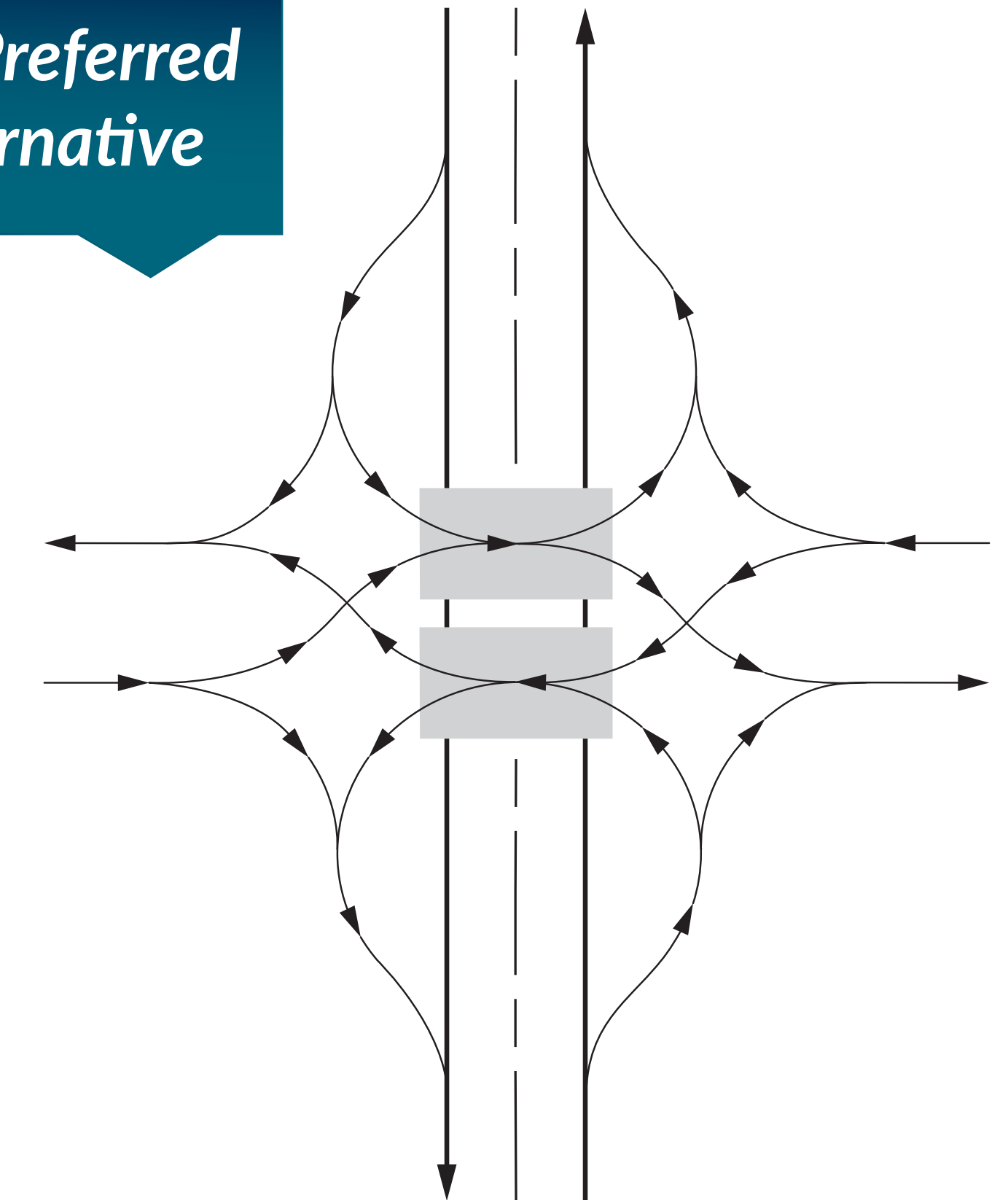
- Long delays
- Queues backing up onto I-25
- Failing levels-of-service at roundabouts for 2050 traffic volumes



Single Point Urban Interchange with Traffic Signals

- Accommodates forecasted 2050 traffic volumes
- Adequate levels-of-service
- 21% higher cost
- Single large bridge

*The Preferred
Alternative*



Diverging Diamond with Traffic Signals

- Accommodates forecasted 2050 traffic volumes
- Better levels-of-service
- Reduces the number of conflict points
- Two small bridges

PREFERRED ALTERNATIVE COST

The current opinion of construction costs for the Happy Canyon Interchange is forecasted to be \$36 million. To replace the existing Happy Canyon bridge, an additional \$6.5 million is needed from CDOT. This would bring the total forecasted cost to \$42 million.

WHY IMPROVE THE INTERCHANGE?



Proposed Improvements at Happy Canyon and Interstate 25

Enhances Safety

**Improves Traffic
Operations**

**Reduces Traffic
at Adjacent
Interchanges**

**Supports
Connectivity**

**Enhances Regional
Mobility**

**Supports Local
Community Growth**

The proposed interchange enables regional connectivity to Canyonside, Crowfoot Valley, and Castle Pines Parkway/Hess Road.

Approval of the surrounding developments has been contingent on interchange improvements and The Canyons development is contributing to the construction costs for the interchange.

The Happy Canyon Interchange project is consistent with City of Castle Pines Comprehensive Plan and Transportation Master Plan guidance and Douglas County's goals of providing a reliable multi-modal transportation network.



- Visually reinforce the City's sense of community and distinct identity at gateways and along public rights-of-way.



- Develop an efficient, multi-functional transportation network designed to ensure safety, promote user access, and facilitate cost-effective operations and maintenance.



- Increase pedestrian and bicycle connectivity, accessibility, safety, and comfort.



- Position the community for future public transit connections and commuting alternatives that reduce traffic congestion.



- Develop transportation infrastructure that supports mixed-use development and walkable activity centers.

WHAT IS BEING STUDIED NOW?



The following environmental resources are being evaluated by the project:

LAND USE

Would the project be consistent with existing and planned land uses and accommodate predicted growth in Castle Pines and Douglas County?

RIGHT-OF-WAY

Would the project require temporary or permanent easements, permanent acquisition of property, and/or relocation of residences or businesses?

NOISE

Would noise-sensitive receptors in the study area (e.g., residences) experience a substantial increase in traffic noise?

AIR QUALITY

How would the project impact air pollutants, air toxic emissions, or greenhouse gases?

TRANSPORTATION

Would the project accommodate forecasted traffic increases?

ENVIRONMENTAL JUSTICE

Would the project result in disproportionately high and adverse human health or environmental impacts to Environmental Justice populations?

WILDLIFE

Would the project impact wildlife, their habitat, or usage patterns?

THREATENED AND ENDANGERED SPECIES

Would the project impact protected species, their habitat, or usage patterns?

WETLANDS

Would the project impact wetlands along Newlin Gulch?

WATER RESOURCES/QUALITY

Would construction, operation, and maintenance of the project impact water resources or increase stormwater runoff that would reduce water quality?

VEGETATION AND NOXIOUS WEEDS

Would the project impact existing vegetation or increase spread of noxious weeds?

VISUAL RESOURCES

Would the project impact the visual setting for viewers in the study area?

CULTURAL RESOURCES (HISTORIC AND ARCHAEOLOGICAL)

Would the project adversely affect historic or archaeological resources?

HAZARDOUS MATERIALS

What is the potential for hazardous materials to be encountered during construction?

GEOLOGIC RESOURCES AND SOILS

What present soil conditions should be addressed during the design process?

The results of the analysis will be documented in an environmental document.

THE PREFERRED ALTERNATIVE

Diverging Diamond Interchanges are newer design configurations. They provide significant safety and traffic flow benefits to areas with heavy directional traffic volumes.



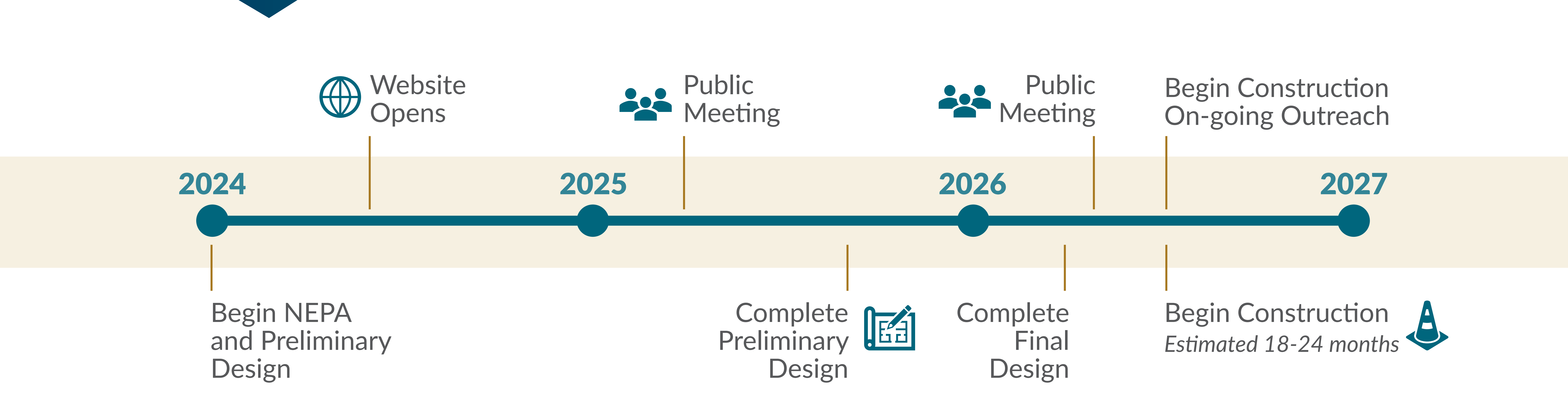
The Benefits of a Diverging Diamond

- Reduces the number of signal phases.
- Requires fewer lanes but can handle more traffic.
- Prioritize left turn movements thus minimizing T-bone accidents.
- Reduces conflict points at intersections.
- Improves pedestrian crossing safety with easier access to medians.
- Increases left-turn capacity.
- Eliminates wrong-way entry to ramps.

TIMELINE / FUNDING



How long before construction begins? How long is the process?



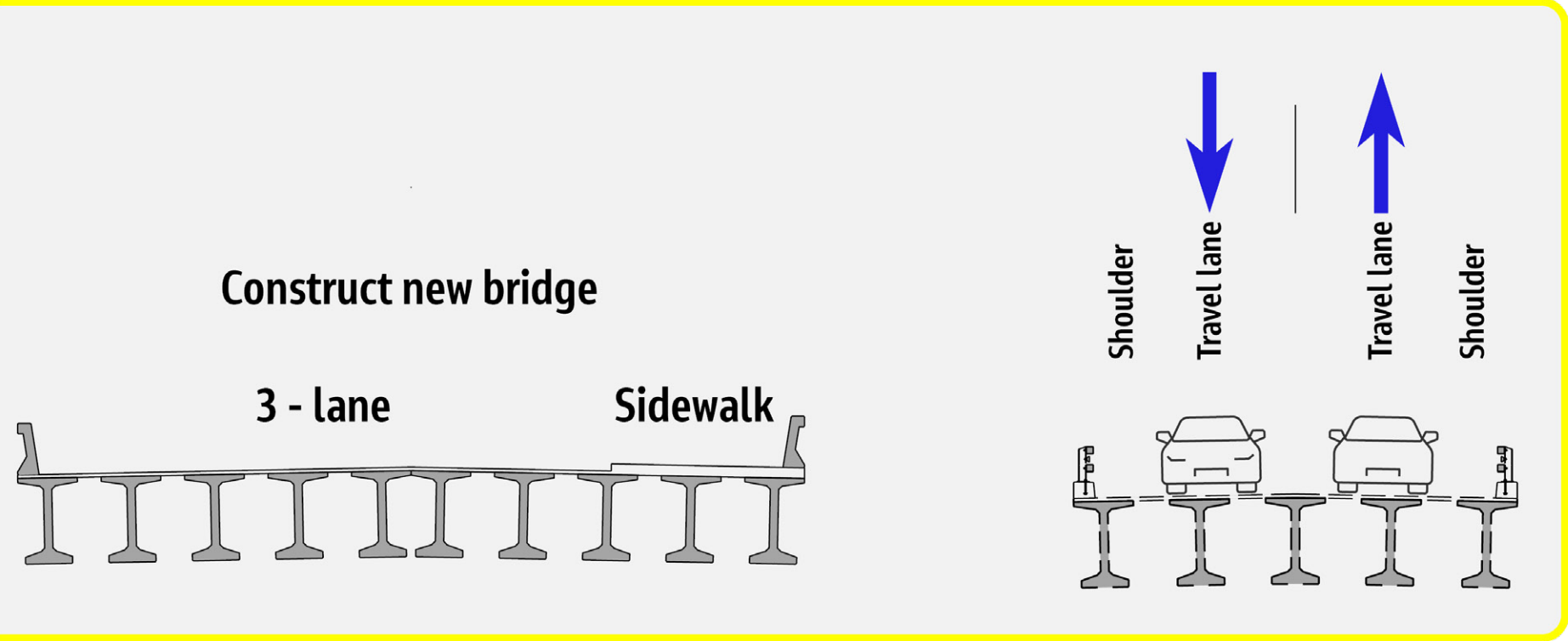
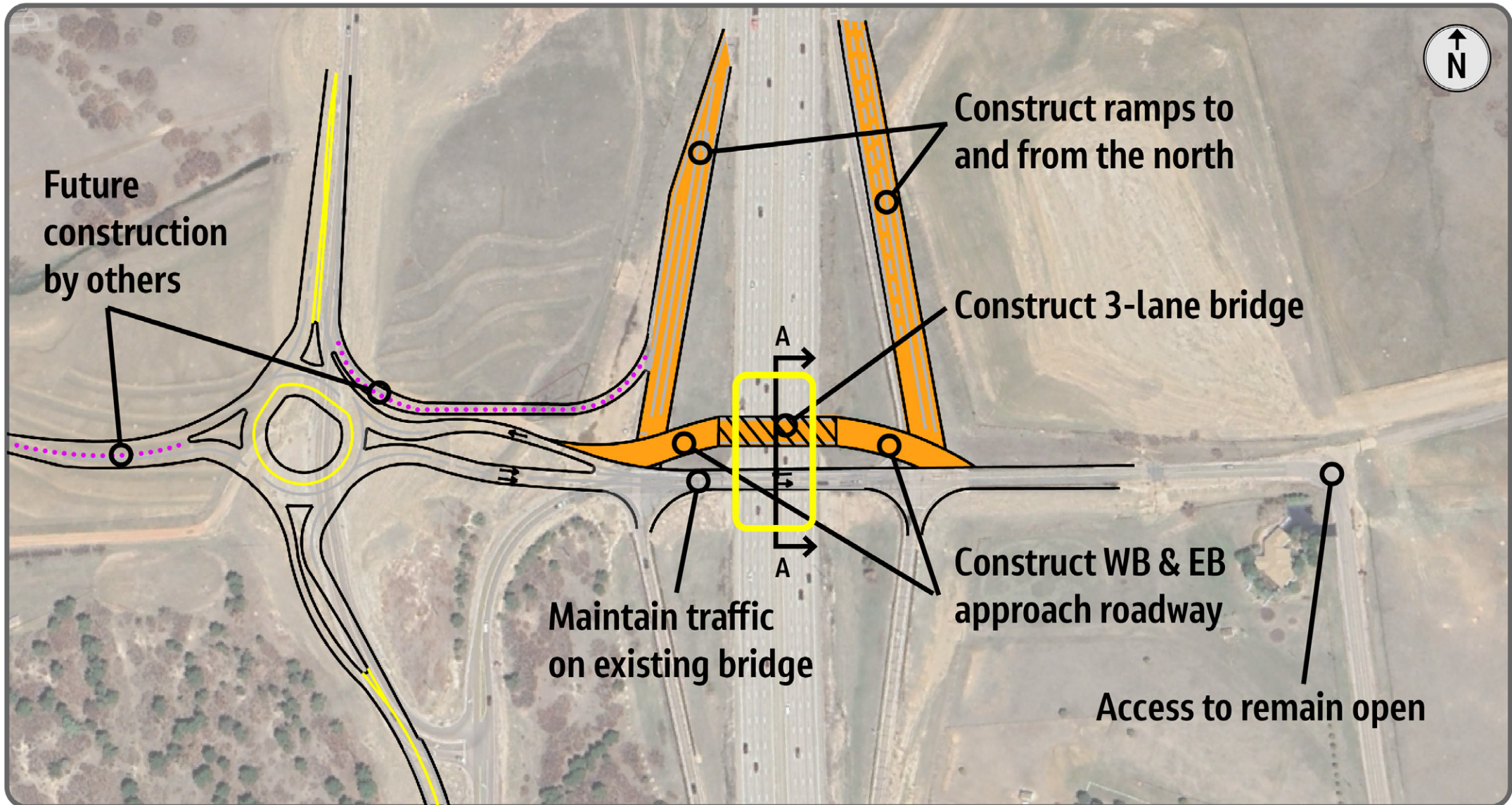
	Potential Funding Sources	Estimated Contribution
Interchange Construction	The City and associated developments	\$15,500,000
	Douglas County	\$20,000,000
	Interchange Total	\$35,500,000
Replacement of Existing Bridge	CDOT	\$6,500,000
	Interchange and Replaced North Bridge	\$42,000,000

Funding is subject to approval by the City of Castle Pines Council, Douglas County Commissioners, and the CDOT Transportation Commission.

CONSTRUCTION PHASING

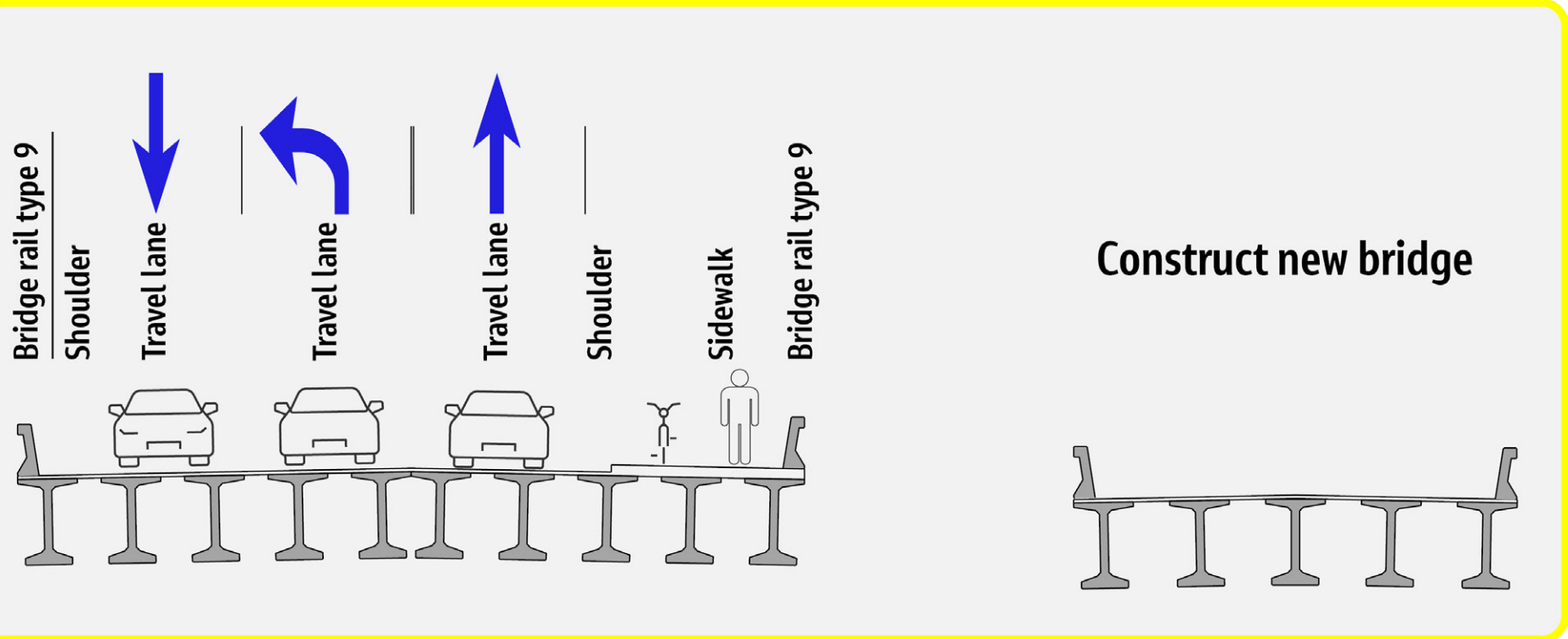
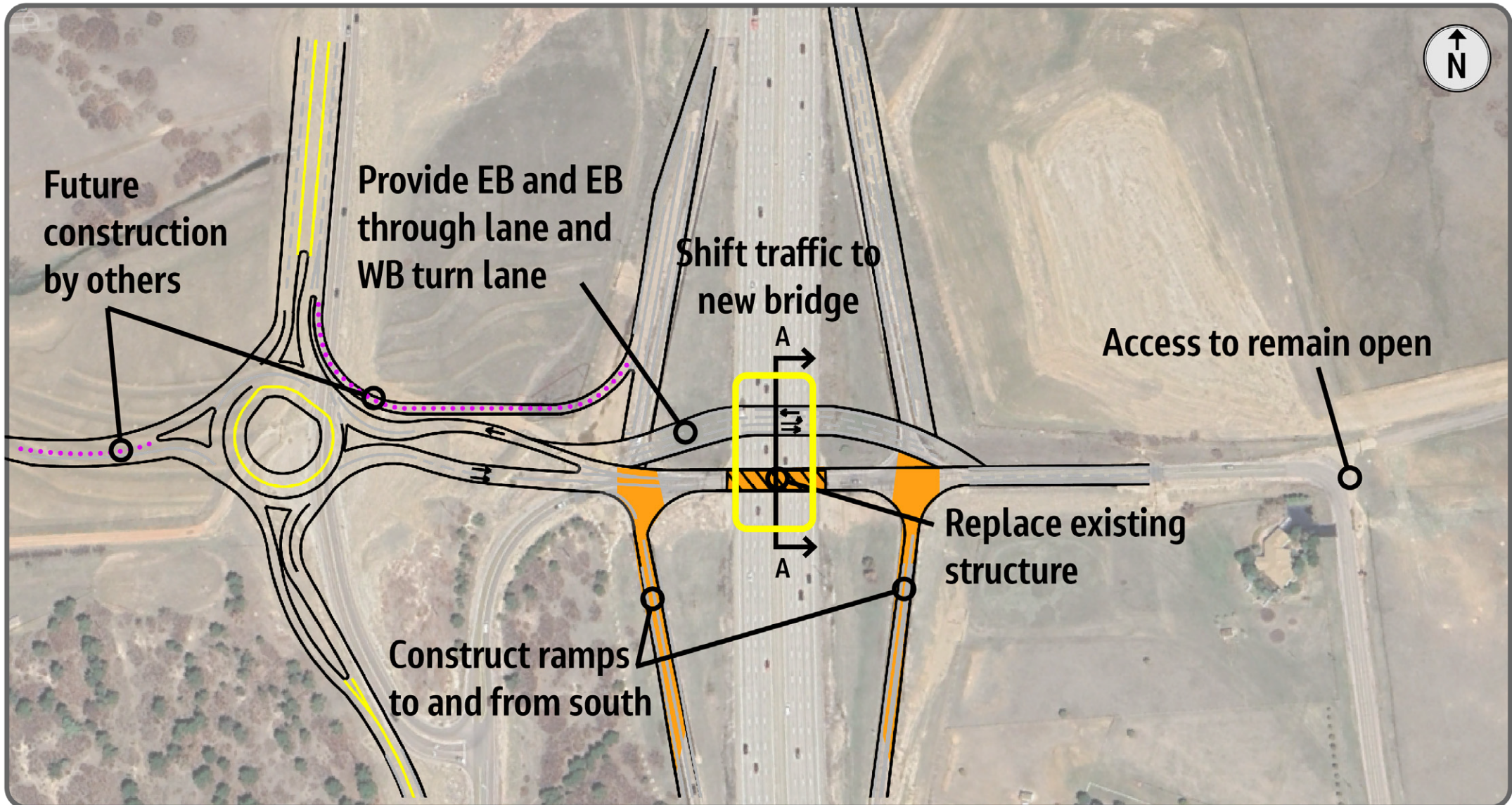
Happy Canyon and I-25 Proposed

Stage 1



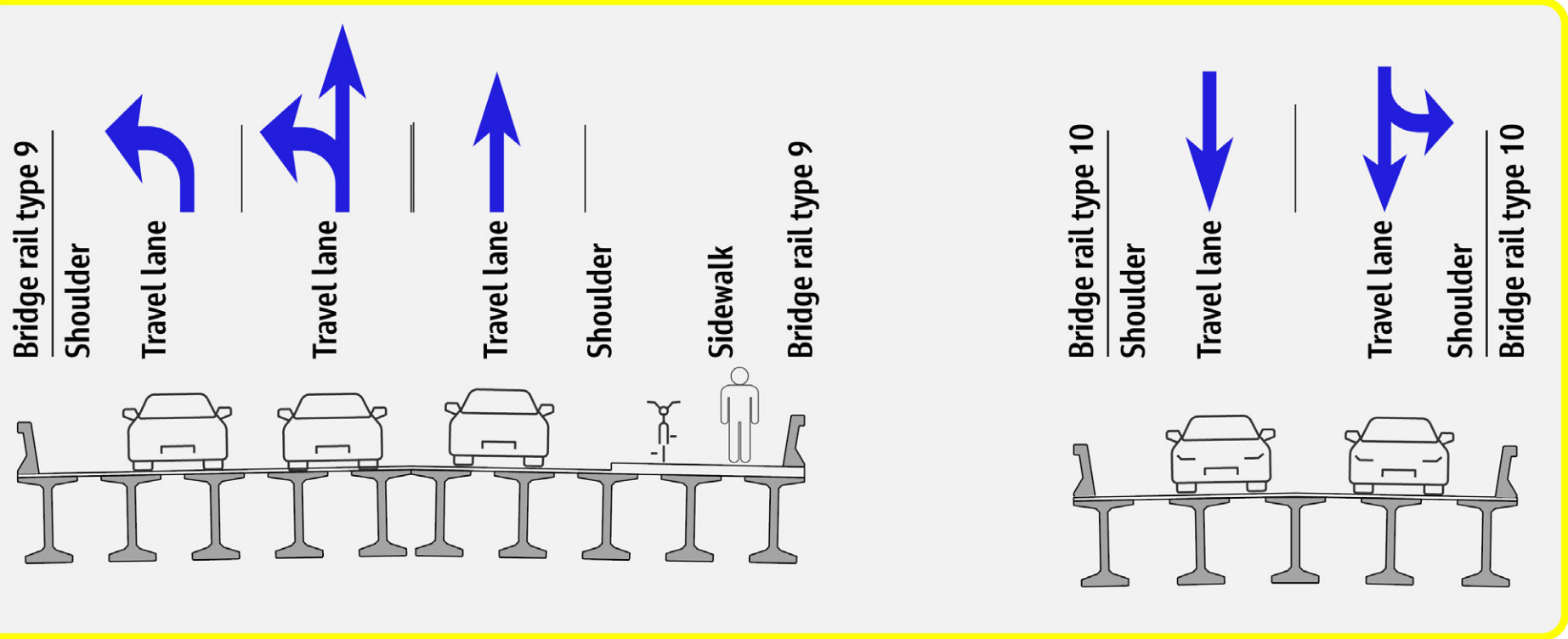
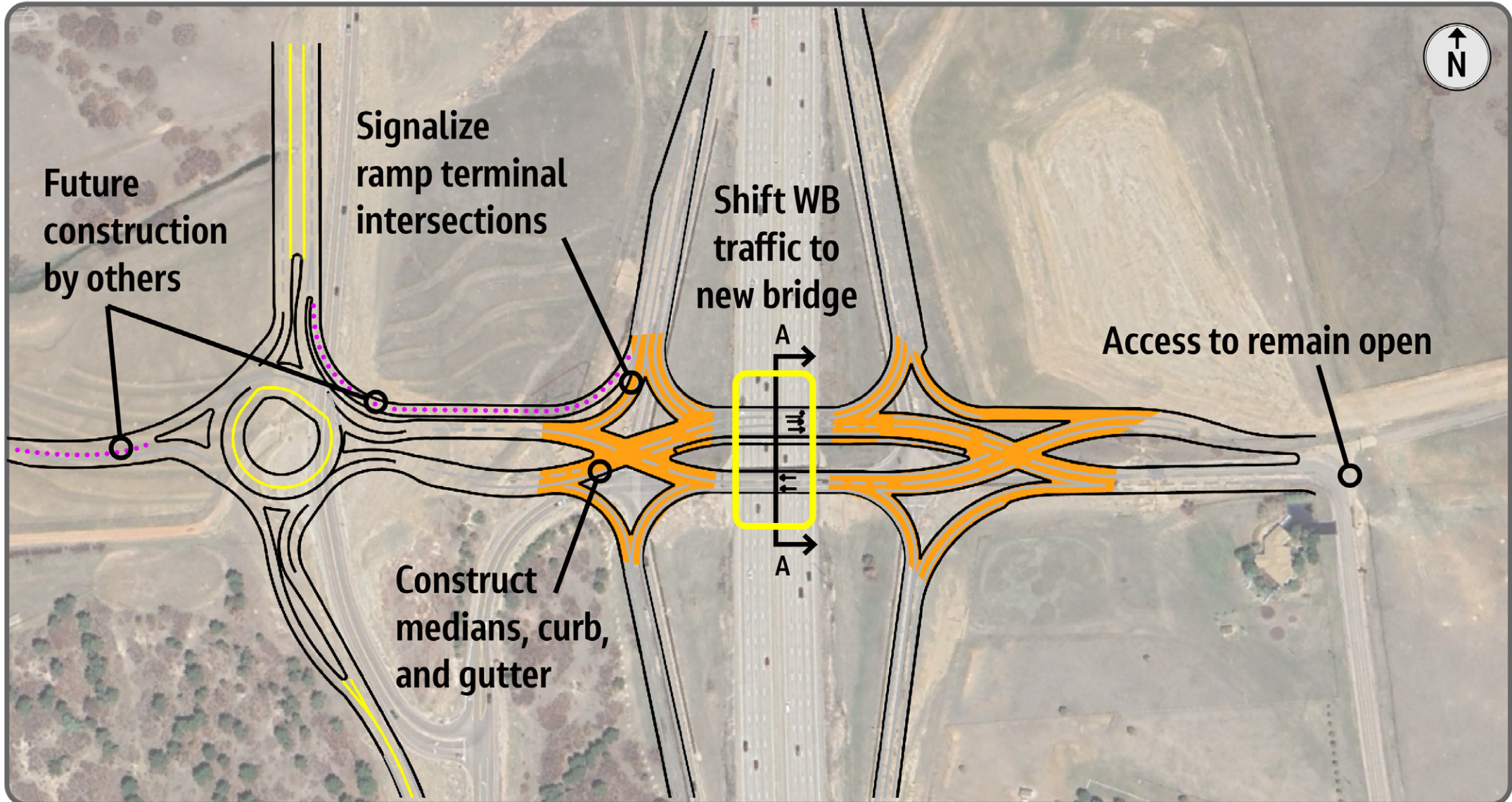
Stage 1 Typical – Section A-A

Stage 2



Stage 2 Typical – Section A-A

Stage 3



Stage 3 Typical – Section A-A