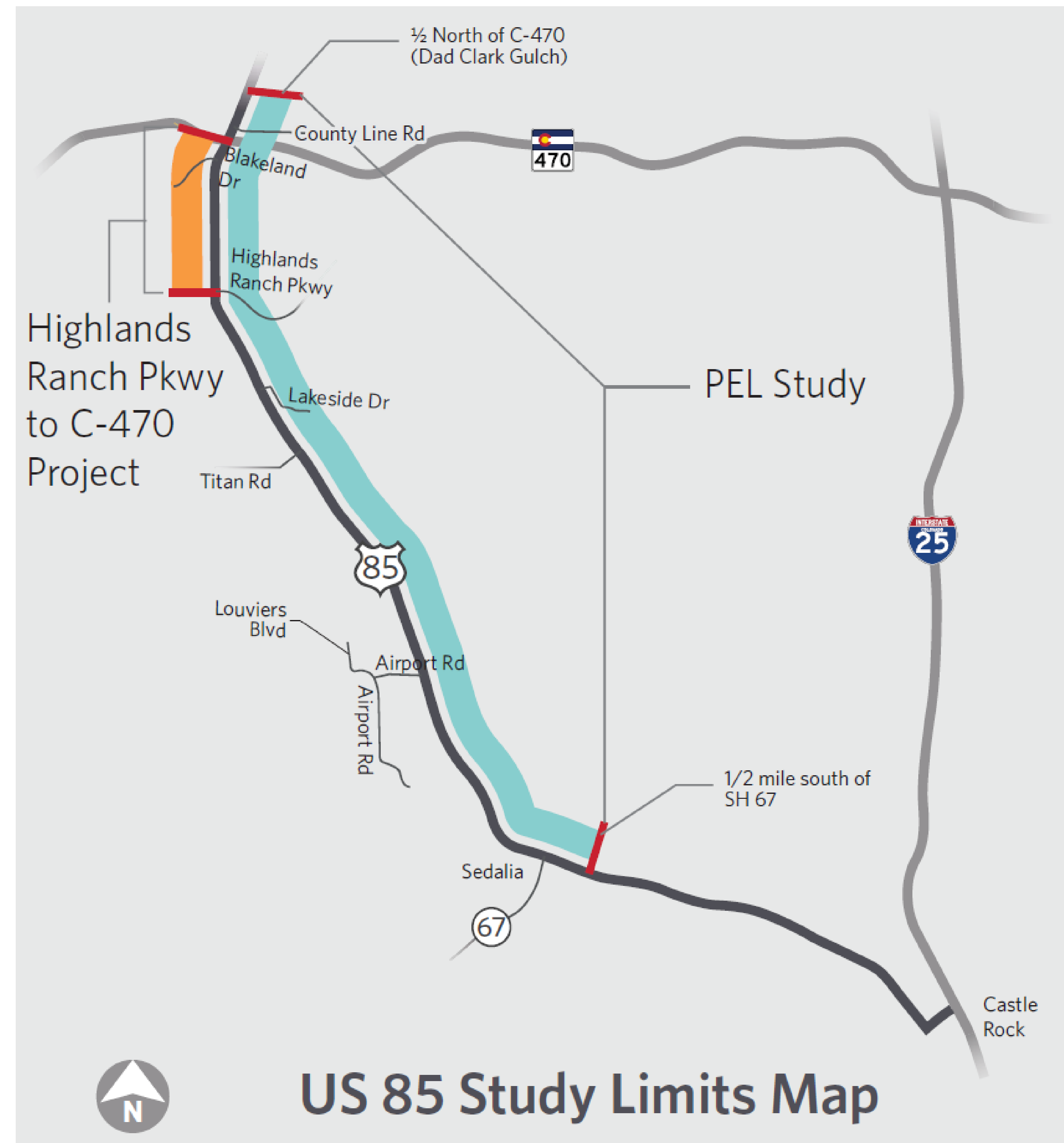




What's Happening on US 85 in Douglas County?

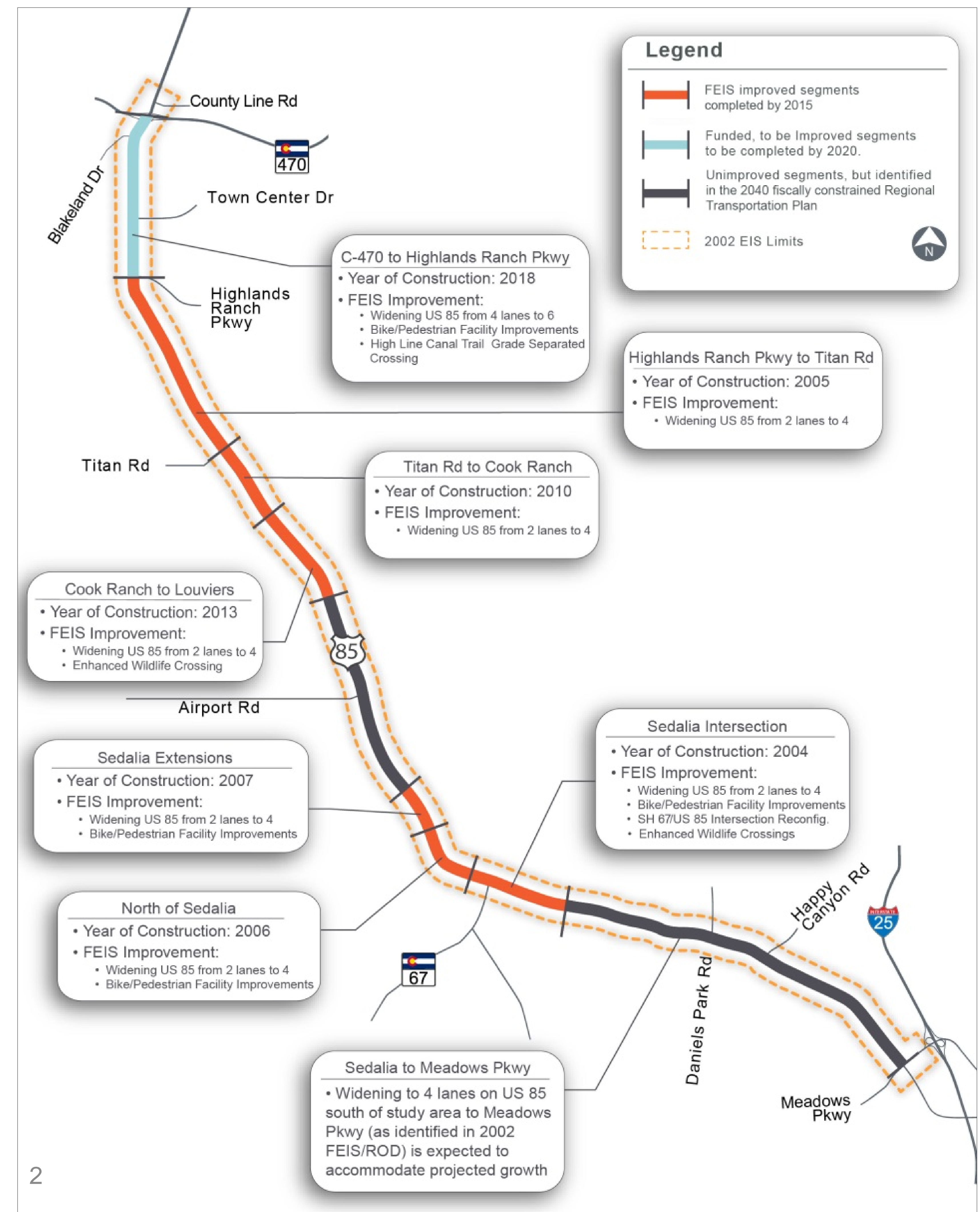
1. Douglas County and CDOT have secured funding to build US 85 corridor improvements approved in 2002 (FEIS/ROD) from Highlands Ranch Parkway north to C-470.

2. A Planning Environmental Linkage (PEL) study is being conducted to determine needs for US 85 from Sedalia north past County Line Road. This PEL study will look at how to accommodate new planned development in NW Douglas County.



What has already been done?

Since the 2002 Record of Decision (ROD) was completed, Douglas County and CDOT have been making improvements consistent with the ROD as funding has become available.





CORRIDOR IMPROVEMENTS



Highlands Ranch Pkwy to C-470

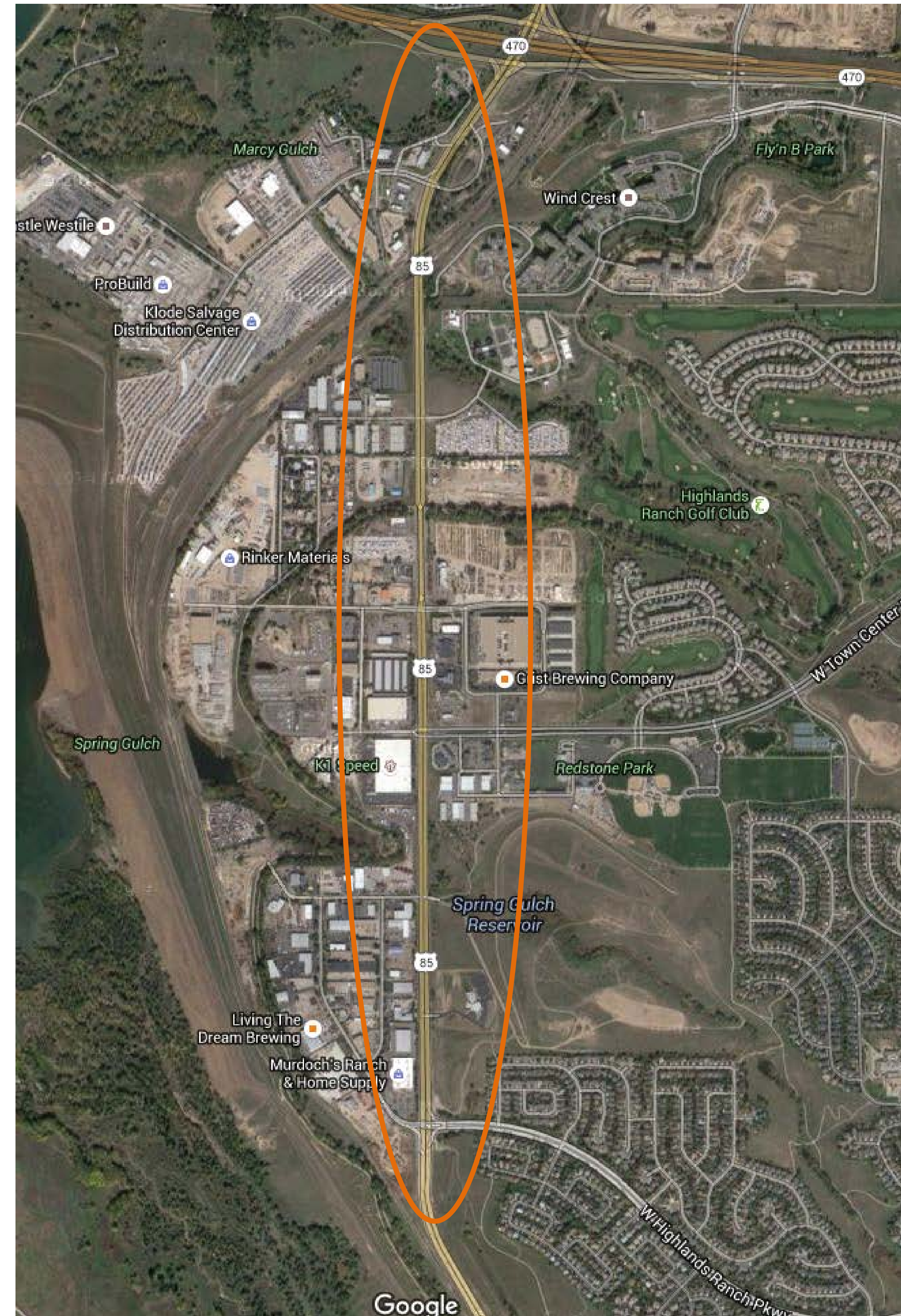
NEPA Re-evaluation and Preliminary Design



Highlands Ranch Parkway to C-470 Project Purpose and Need

The US 85 corridor from Highlands Ranch Parkway to C-470 has mobility, safety, and multimodal needs. Future projected growth will worsen these conditions. These conditions, similar to the needs as originally identified in the FEIS, for this US-85 segment are:

- Insufficient capacity, now and in the future
- Safety Concerns
- Lack of multi-modal options



What will be constructed from Highlands Ranch Parkway to C-470?

- Six lanes between C-470 and Highlands Ranch Parkway
- Bicycle/pedestrian facilities along US 85
- High Line Canal Trail grade-separated crossing under US 85

South I-25 Corridor and US 85 Corridor FEIS/ROD (October 2002):
Cross Section from Blakeland Dr to Highlands Ranch Pkwy

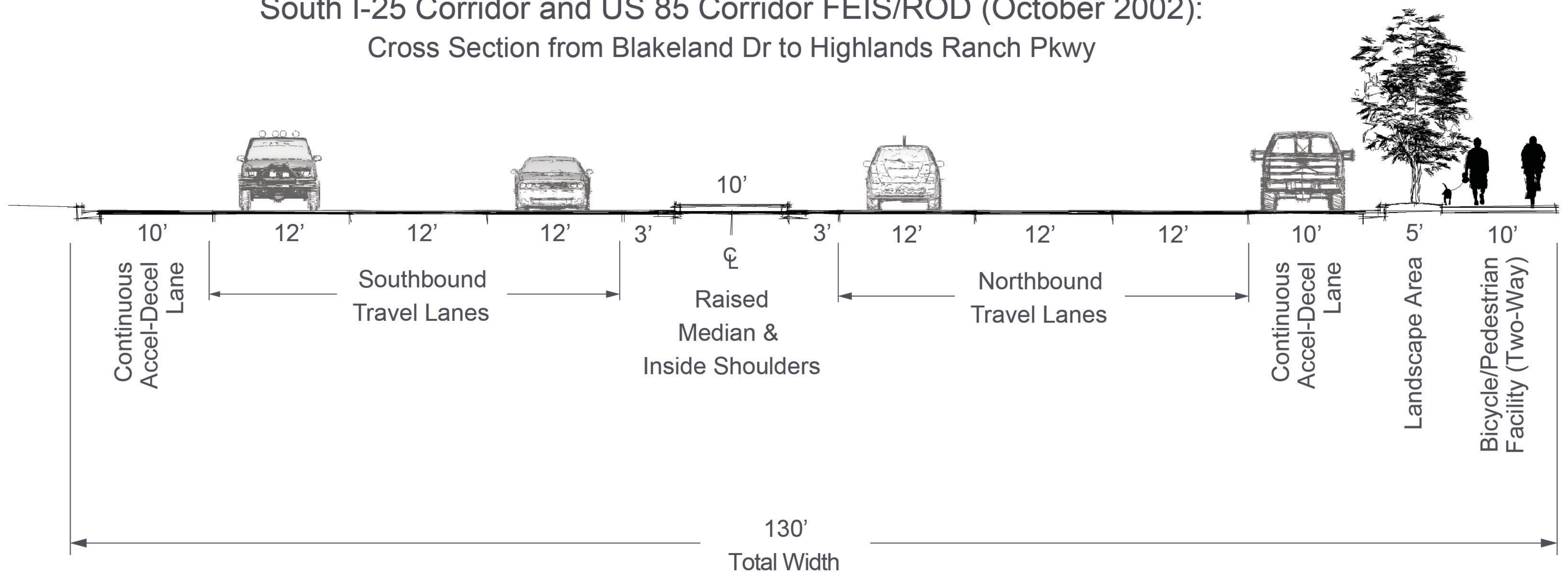


Photo simulation of the High Line Canal Grade Separation



Refinement Options Under Consideration

Mainline Options

- 6-lane plus auxiliary lanes
- Access changes as recommended by 2002 Access Control Plan
- Horizontal Alignment: stay on existing center line, shift east, shift west
- Vertical Profile: reconstruction at RR bridges; High Line Canal underpass, intersections

Intersections

- Evaluation of turn lanes, storage lengths, etc.
- Continuous Flow Intersections

Bikes, Pedestrians and Transit

- Bus stops, shelters, benches
- High Line Canal alternatives
- Bike parking, shared-use trail alternatives
- Pedestrian sidewalk alternatives
- Spring Gulch alternatives

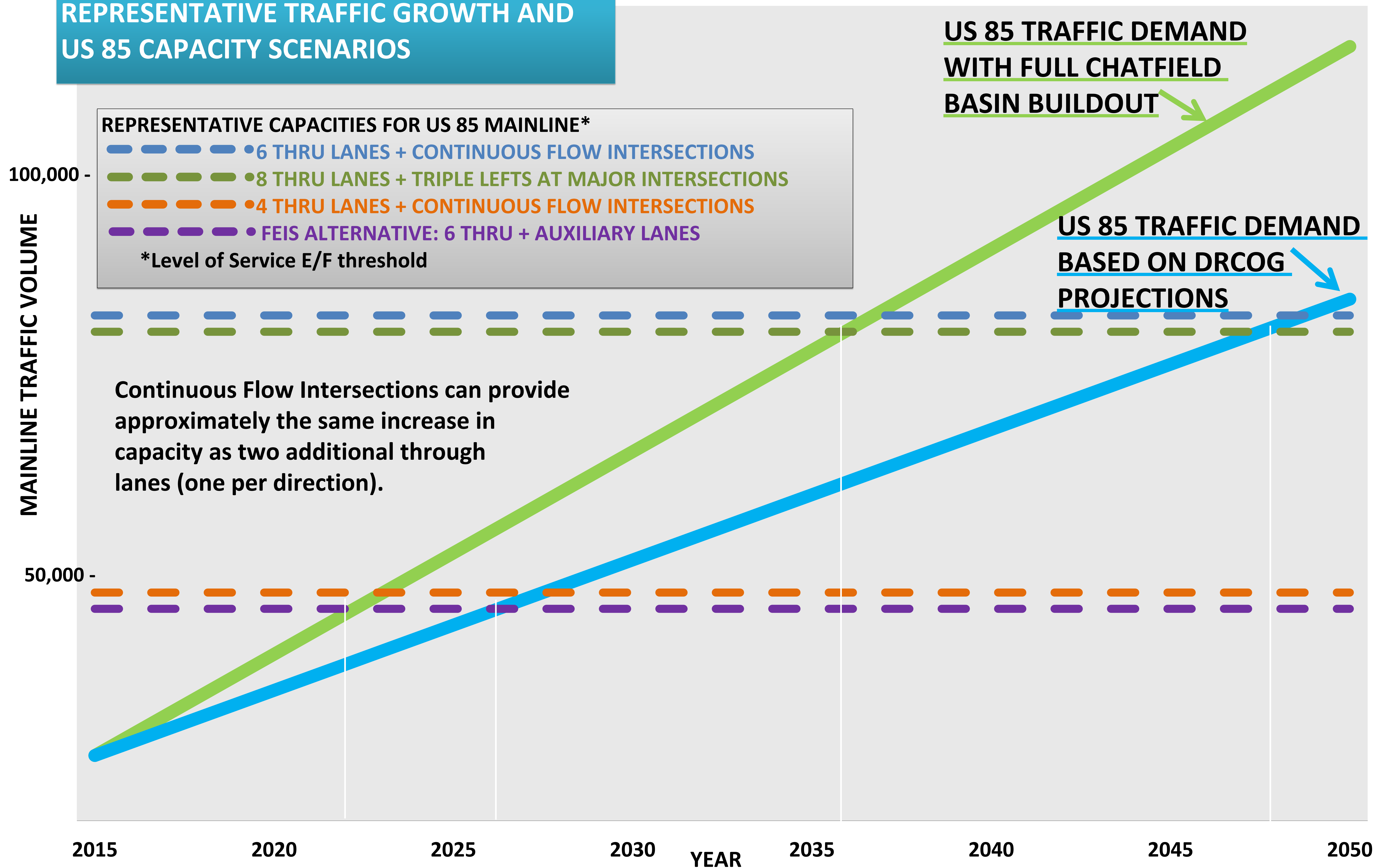
Water Quality and MS4 Requirements

- On-site
- Regional ponds
- Water Quality Mitigation Pool



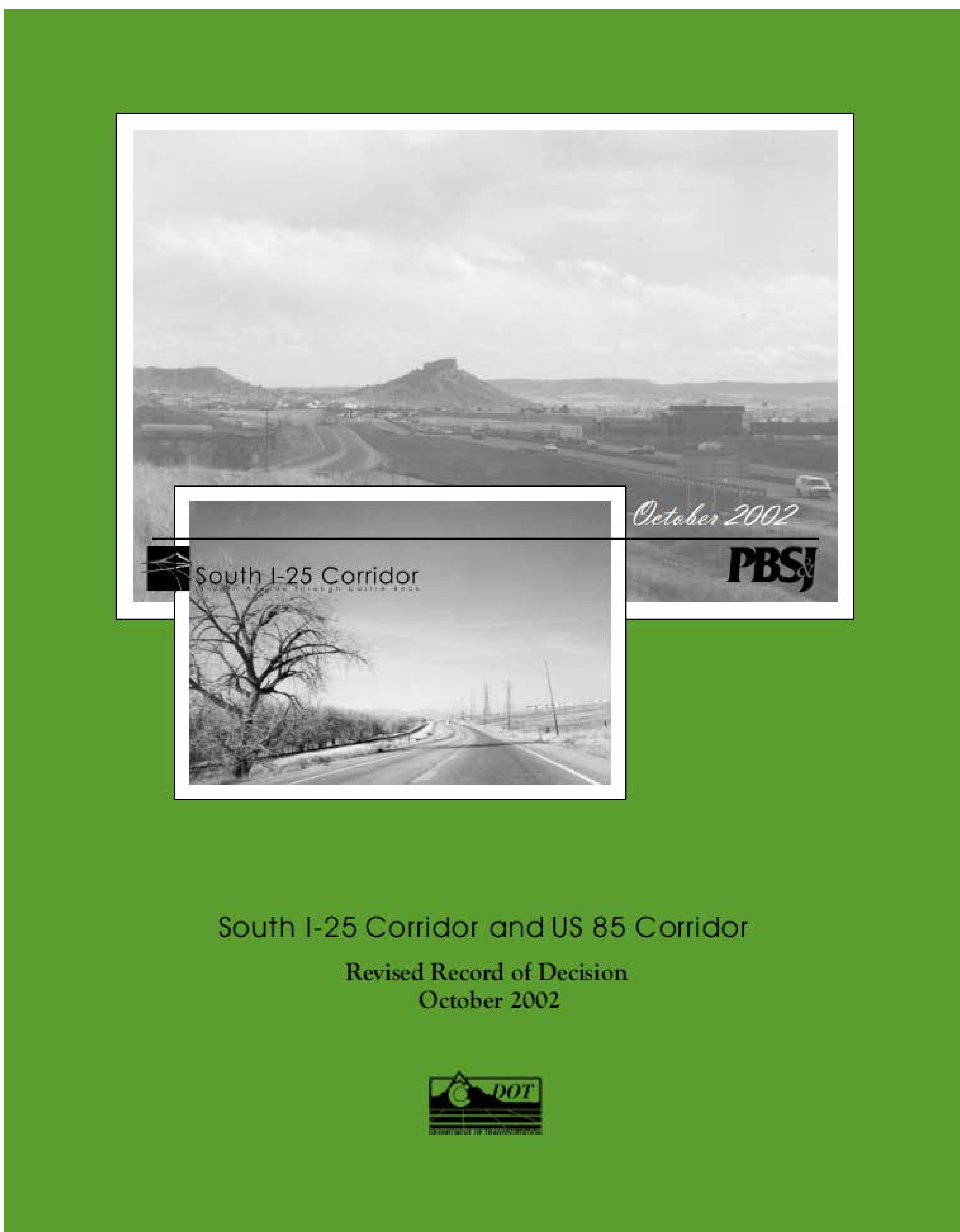
Demand and Capacity Comparison

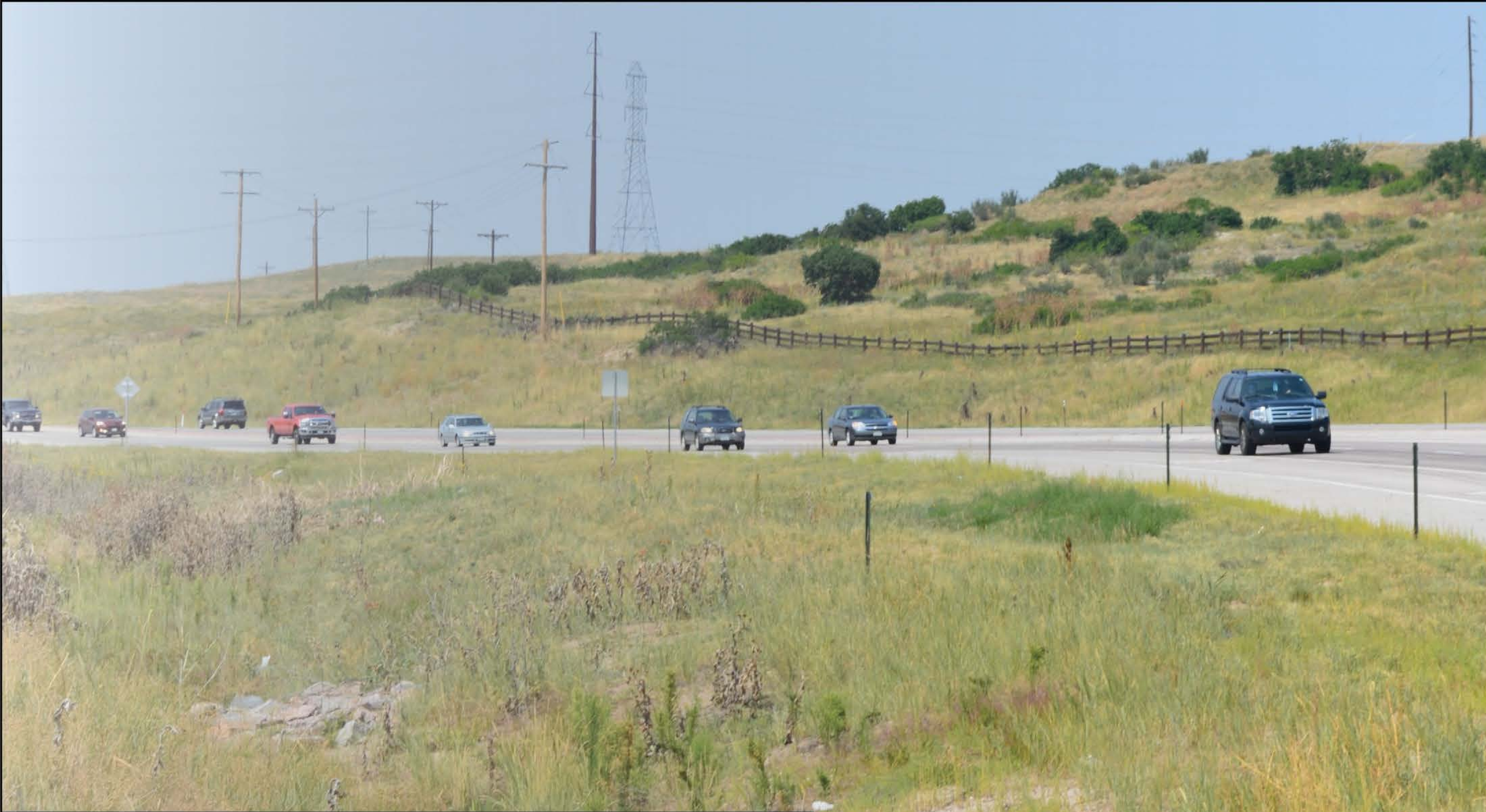
REPRESENTATIVE TRAFFIC GROWTH AND US 85 CAPACITY SCENARIOS



What is the anticipated schedule for construction?

- 2002: Record of Decision approved
- Summer 2016: Environmental “Reevaluation” to be completed to account for any changed conditions
- 2017 Final Design
- 2018 Right-of-Way Acquisition
- 2019-2020 Construction





**CORRIDOR
IMPROVEMENTS**



PEL Study

Alternatives Development - Level 1

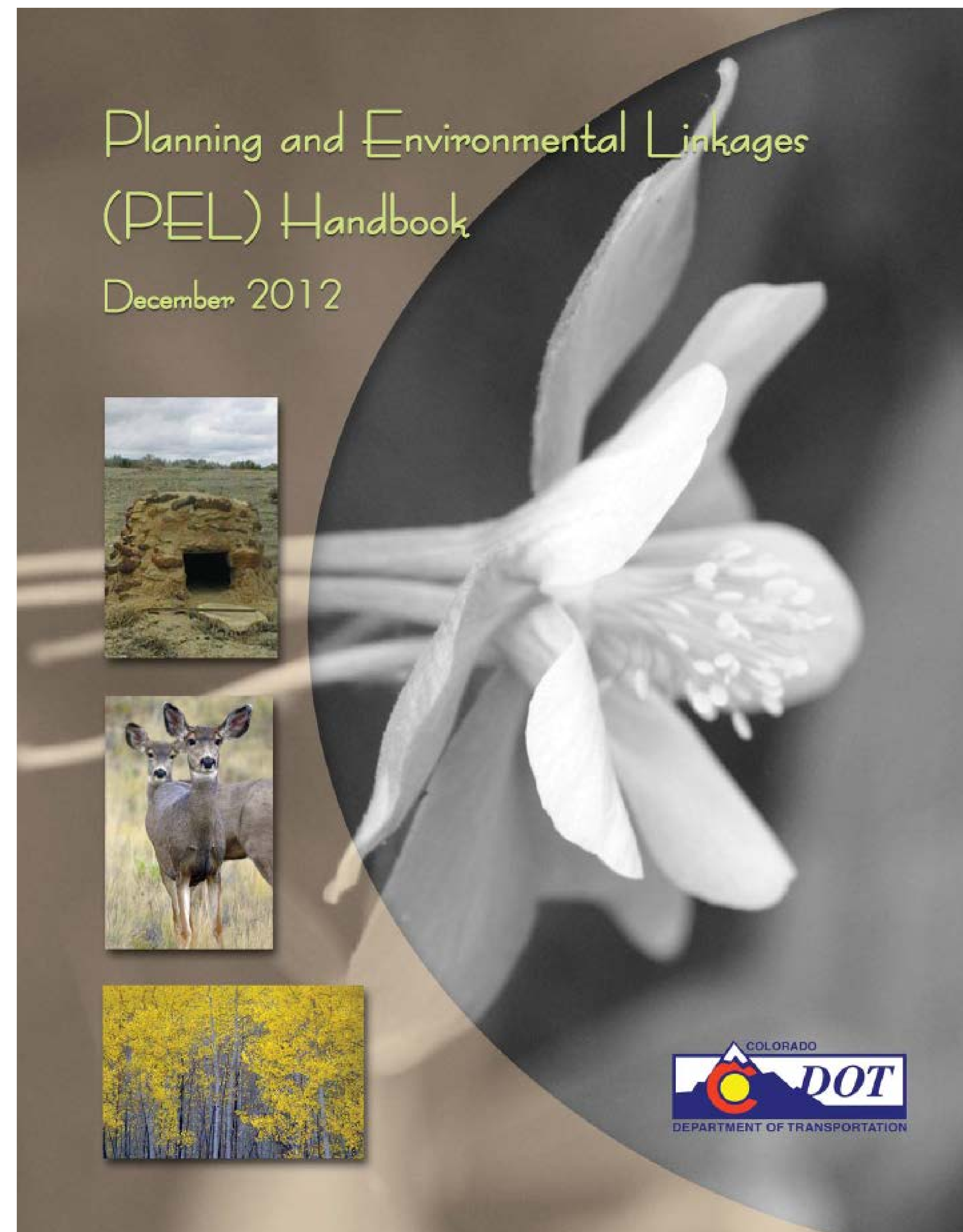
Why do a Planning Environmental Linkage (PEL) Study ?

- Development in the Chatfield Basin was not anticipated in the 2002 FEIS/ROD
- New transportation demand forecasts have the potential to require more than the FEIS/ROD improvements in the 11 mile PEL Study area
- Douglas County and CDOT want to work with stakeholders to create:
 - 1) a Post-2040 Vision for the 11 mile corridor
 - 2) an implementation plan
 - 3) a prioritized list of improvements



What is a Planning and Environmental Linkages (PEL) Study?

- Process to identify transportation issues and environmental concerns
- Pulls from previous planning efforts and engages the public stakeholders to collect and refine alternatives
- PEL studies are acknowledged by FHWA and CDOT as the appropriate process to prepare information that can be carried forward into the National Environmental Policy Act (NEPA) process.



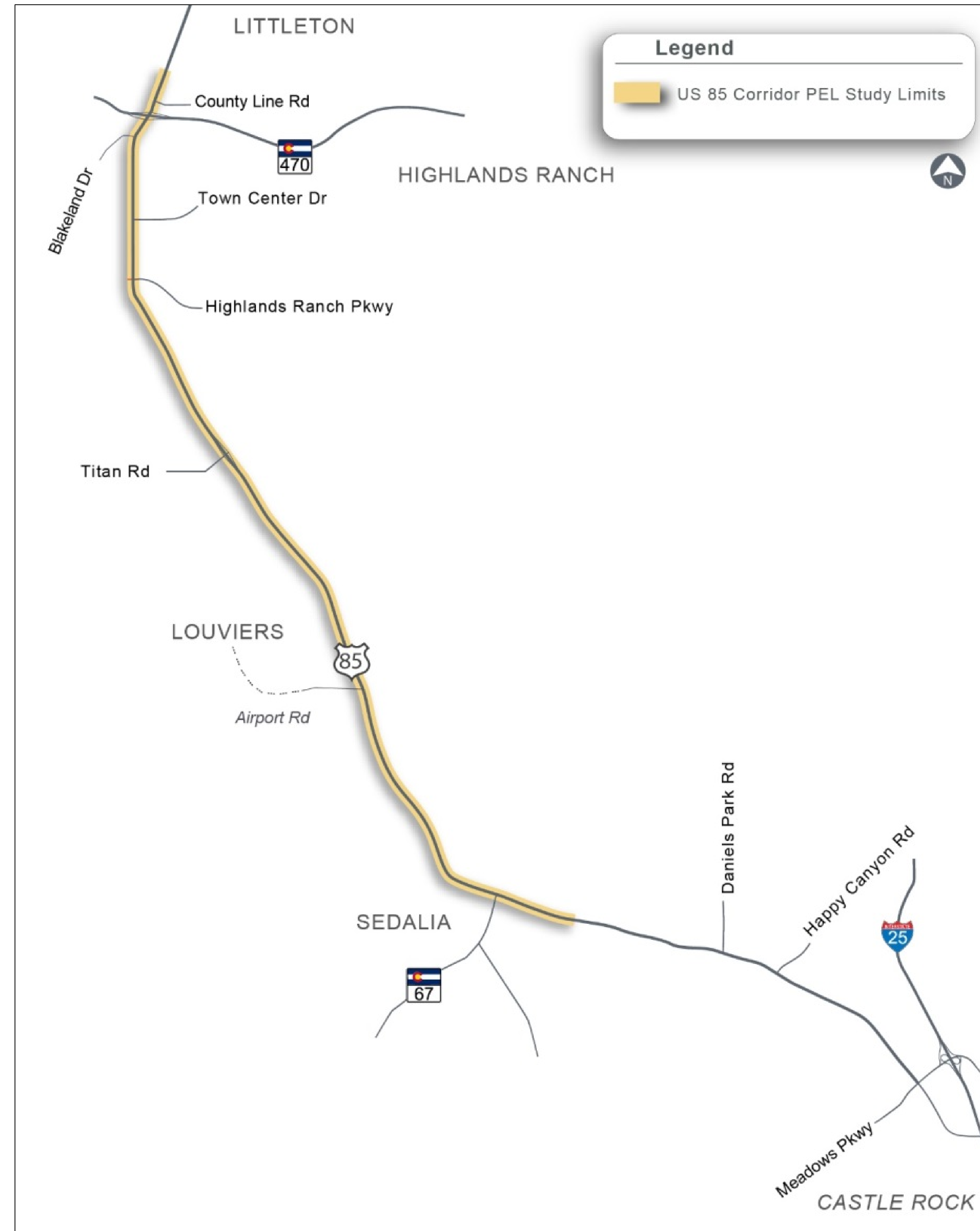
PEL Study Area

11 mile corridor

Captures the Chatfield Basin traffic likely to access the US 85 corridor

Includes major intersections so a comprehensive transportation corridor solution can be developed

Widening to 4 lanes on US 85 south of study area to Meadows Parkway (as identified in 2002 FEIS/ROD) is expected to accommodate projected growth



DRAFT US 85 PEL Study Purpose & Need

This represents the DRAFT Purpose and Need and will be revised based on stakeholder and public input

Project Purpose

- The purpose of this project is to identify improvements needed to the US 85 Corridor to safely and efficiently meet the future multimodal travel demands on US 85 associated with the build-out of the Chatfield Basin in Northwest Douglas County, which is anticipated to occur beyond the 2040 time frame.

Future Corridor Needs

- Inadequate capacity
- Insufficient access
- Safety concerns
- Lack of multimodal facilities and connections

Level 1 Screening Process for the PEL Study

The following are the questions that are being used in the Level 1 screening. This screening is qualitative in nature and considered both the entire study corridor and the individual segments/intersections. The project's Purpose and Need Statement was the basis for the questions.

- Is the alternative practical and feasible?
- Does the alternative meet future travel demands?
- Does the alternative provide reasonable access?
- Does the alternative enhance safety for all modes of travel?
- Does the alternative improve multimodal travel options for pedestrians, bicyclists and transit users?

Initial Range of Alternatives PEL Study

Previous Conceptual Alternatives Considered for the Corridor

- Existing Conditions
- FEIS Selected Alternative (October 2002)
- Northwest Douglas County US 85 Corridor Feasibility Study (2014) Identified Alternatives
- Other Improvement Types
 - Mainline Highway Modifications (6 lanes, 8 Lanes, Bypass/Split Alignment)
 - Intersections (at grade, at grade innovative, grade separated)
 - Network/Access (Median controlled, CD/Frontage Road, Southern Connector)
 - Transit (bus in GP lanes, bus in dedicated lanes, rail)
 - Bike/Ped (attached, detached, off alignment)

Existing Conditions from County Line Road to SH 67

Highway

- 4 lanes throughout the study area except from approximately 2 miles south of Titan Road to approximately ¾ mile north of Delva Way

Access

- Approved Access Management Plan (2001)

Transit

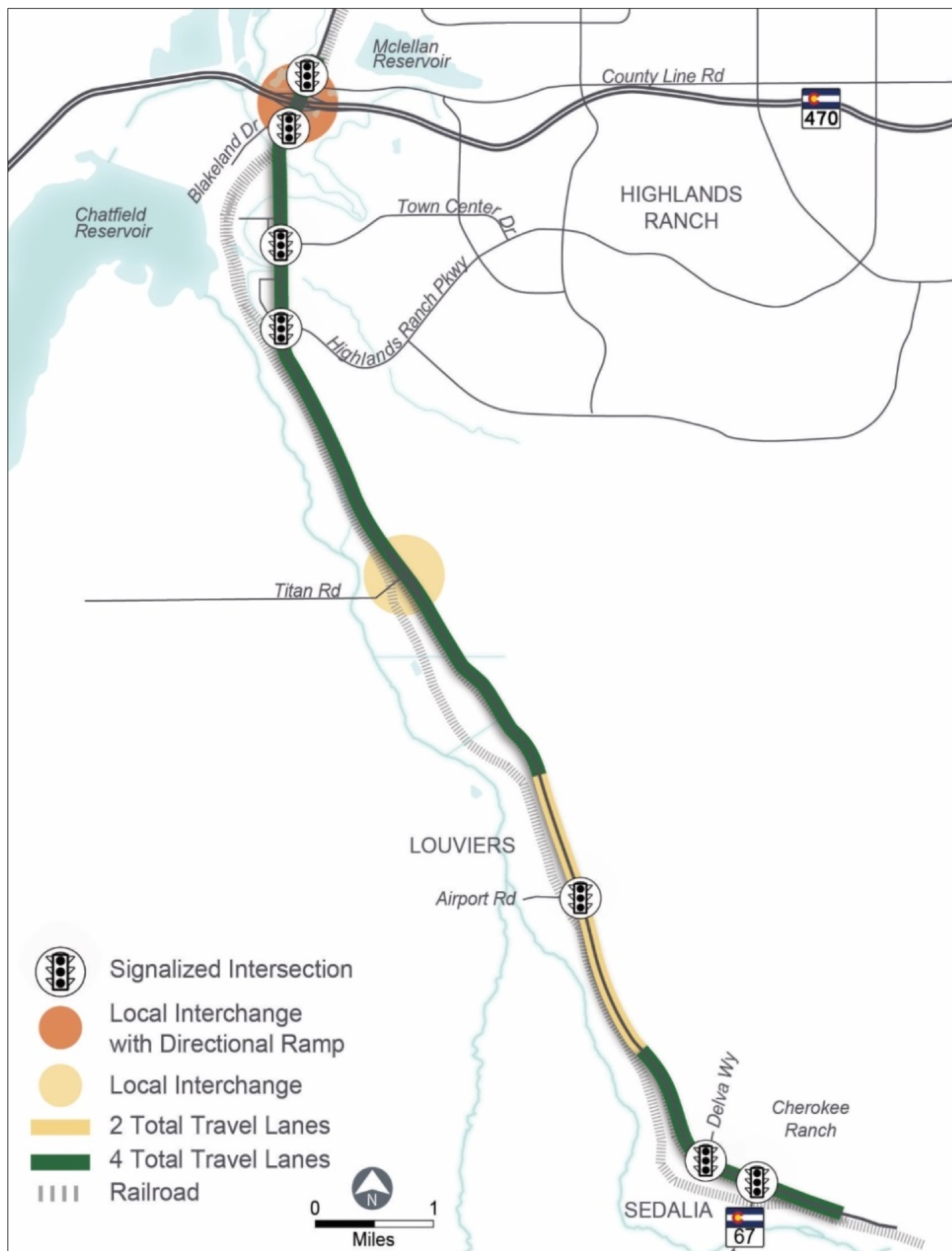
- 1 RTD Route (402L) from Highlands Ranch Parkway north on US 85

Bicycle

- Widened shoulders have been constructed along certain segments that accommodate bicycles
- In other locations, a trail has been provided along the highway

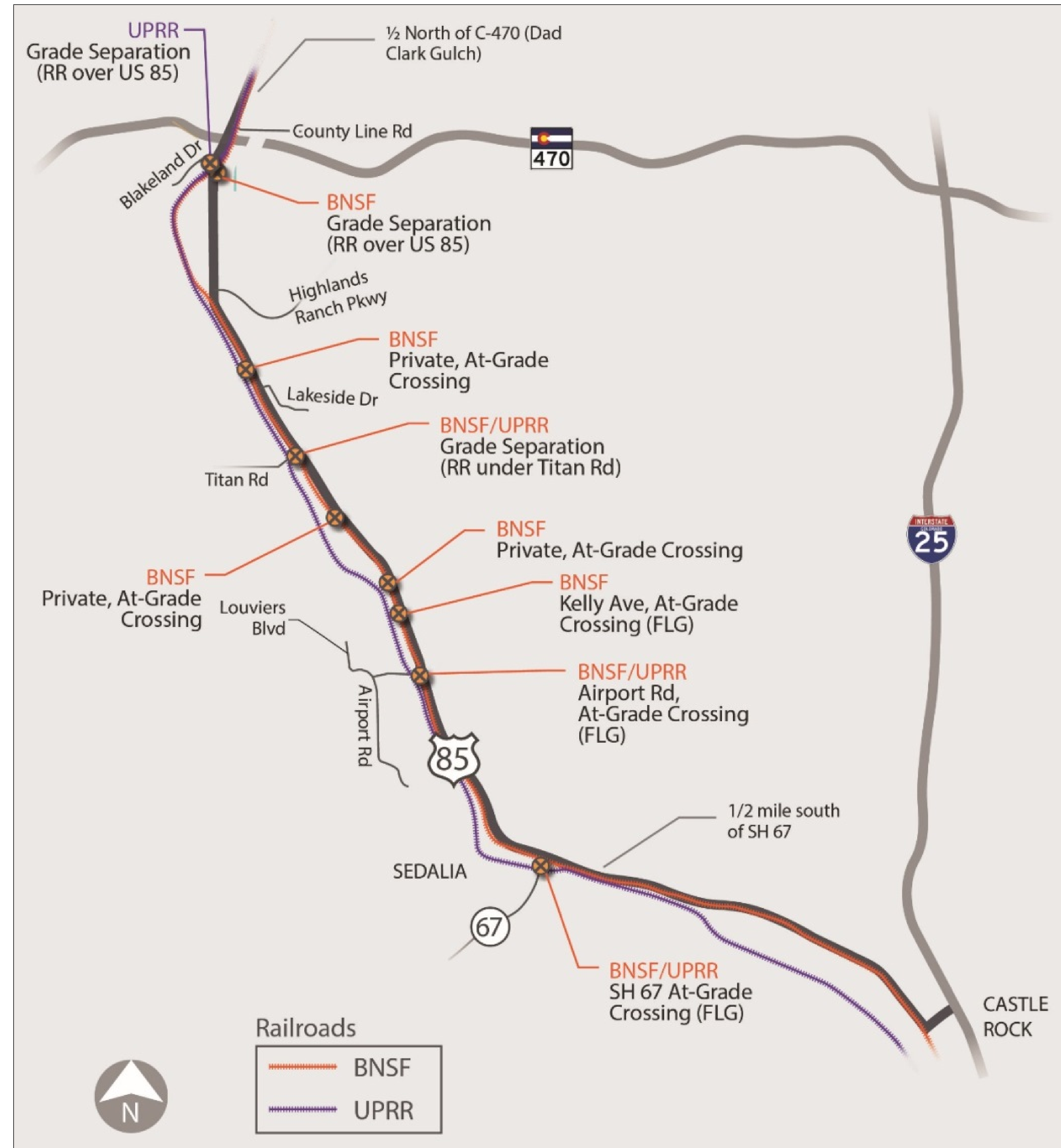
Pedestrian

- Protected crossing at signalized intersections
- Limited sidewalks and paths along US 85



Existing Railroad Crossings from County Line Road to SH 67

- 2 lines – Burlington North Santa Fe (BNSF) and Union Pacific (UPRR)
- 2 grade separated crossings
- 3 at-grade public roadway crossings
- 3 at-grade private crossings



PEL Study—2002 FEIS Selected Alternative

Highway

- 6 lanes from C-470 to Highlands Ranch Parkway
- 4 lanes from Highlands Ranch Parkway to Southern Study Area Limits

Access

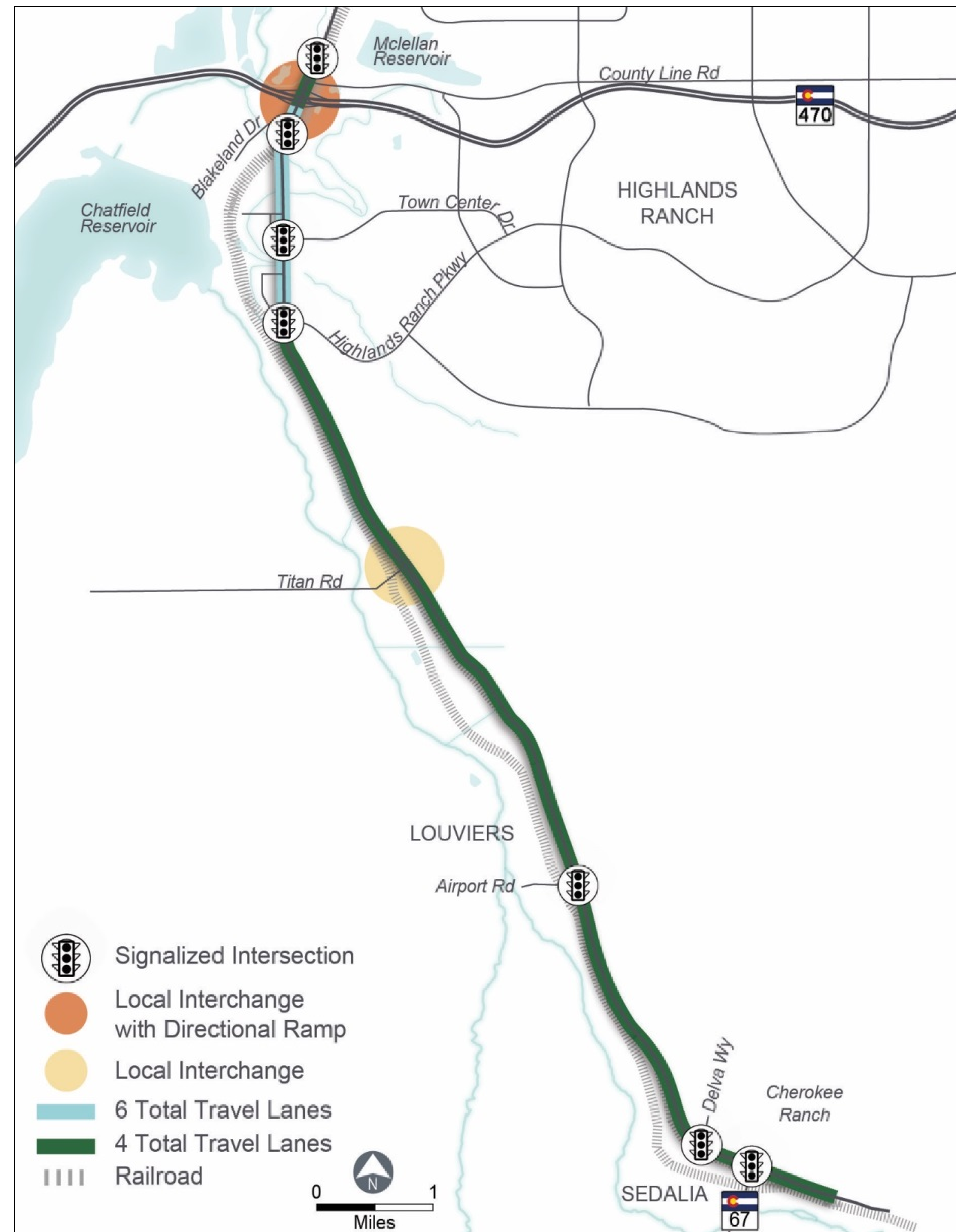
- Approved Access Management Plan (2001)

Transit

- 1 RTD Route (402L) from Highlands Ranch Parkway north on US 85

Bicycle/Pedestrian

- High Line Canal Trail grade separated crossing
- Bike/Ped facility attached both sides of US-85 (C-470 to Blakeland)
- Bike/Ped Facility detached east side of US 85 (Blakeland HRP)
- Wide bike shoulder on both sides of US 85 (HRP-IREA)
- Bike/Ped facility attached on west side of US 85 (IREA to SH 67)



NW Douglas County US 85 Corridor Feasibility Study

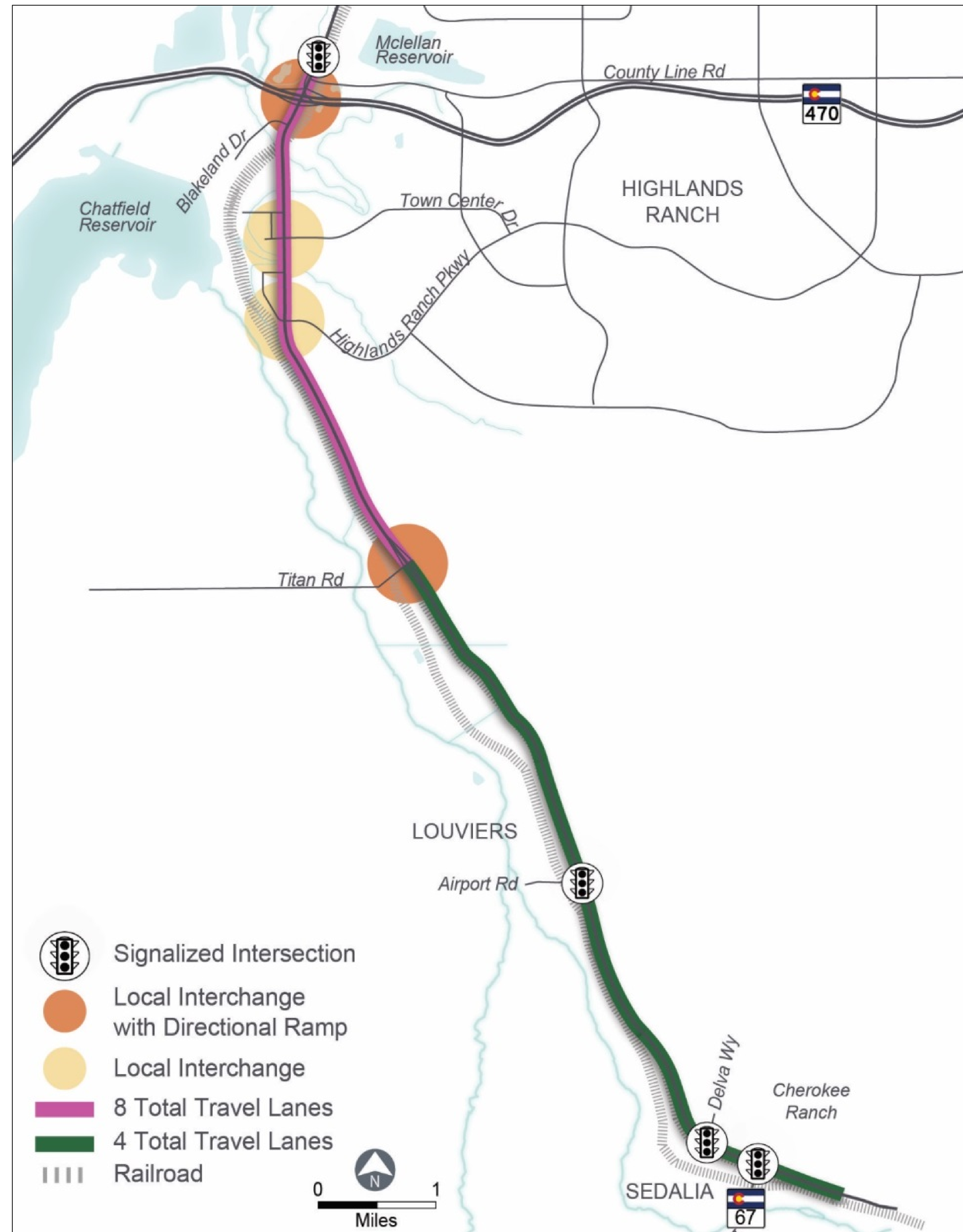
(Alternatives identified in 2014 study)

Highway

- 8 lanes from County Line Road to Titan Road
- 4 lanes from Titan Road to the southern study area limits

Access

- Approved Access Management Plan south of Titan Rd
- New interchanges at Town Center Dr and Highlands Ranch Pkwy with frontage roads
- All other access right-in/right-out north of Titan Rd



NW Douglas County US 85 Corridor Feasibility Study

(Alternatives identified by 2014 study)

Transit

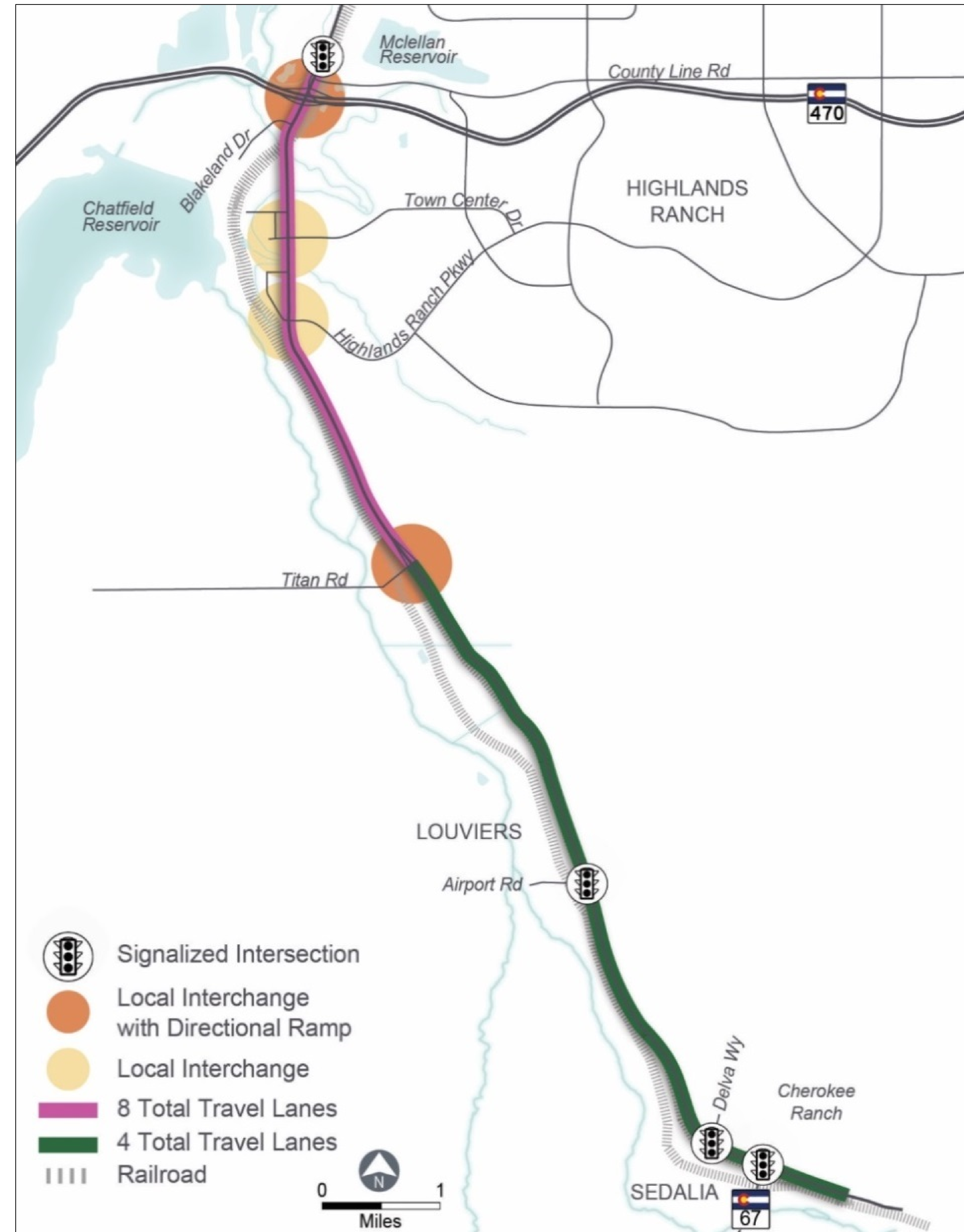
- RTD's SW LRT Extension from Mineral Station to C-470 and Lucent Blvd

Bicycle

- Facilities along US 85 for the entire corridor
- High Line Canal Trail grade separated crossing

Pedestrian

- Facilities along US 85
- High Line Canal Trail grade separated crossing



Other Alternatives identified in NW Douglas County US 85 Corridor Feasibility Study

Recommended Improvement	Improvement Description
Wadsworth/Waterton Road Intersection Improvements	<ul style="list-style-type: none"> ▪ Signalize intersection ▪ Additional and improved turn lanes
C-470/US 85 Interchange Improvement	<ul style="list-style-type: none"> ▪ Construct fly-over ramp for northbound to westbound movement
US 85/Titan Rd Interchange Improvement	<ul style="list-style-type: none"> ▪ Construct fly-over ramp for eastbound to northbound movement ▪ Reconstruct southbound off-ramp ▪ Titan Road improvements west of interchange
US 85, Titan Rd to C-470	<p>Develop a 6 to 8 lane Enhanced Expressway, including:</p> <ul style="list-style-type: none"> ▪ Grade-separated, diamond interchanges at Highlands Ranch Pkwy and Town Center Dr ▪ 8 lanes on US 85 between the Titan Rd and Highlands Ranch Pkwy interchanges, 6 US 85 lanes plus frontage roads between Highlands Ranch Pkwy and Town Center Dr, and 8 lanes between the north Town Center Dr ramps and the C-470 interchange. ▪ Limit other access points on US 85 between Titan Rd and C-470 to right-in/right-out stop sign controlled intersections.
US 85 at Kelley Ct	<ul style="list-style-type: none"> ▪ Provide acceleration and deceleration lanes on US 85 ▪ Restrict to right-in/right-out movements
US 85 at Airport Rd	<ul style="list-style-type: none"> ▪ Add a third lane on US 85 in each direction through the intersection ▪ Traffic signal and turn lane modifications
US 85 at SH 67	<ul style="list-style-type: none"> ▪ Add a third lane on US 85 in each direction through the intersection ▪ Traffic signal and turn lane modifications

Mainline Highway Improvements

	C-470 TO HRP	HRP to Titan Rd	Titan Rd to Airport Rd	Airport Rd to SH 67
4 Lanes			✓	✓
6 Lanes	✓	✓	✓	✓
8 Lanes	✓	✓		
Split Pair/Bypass Alignment	✓			

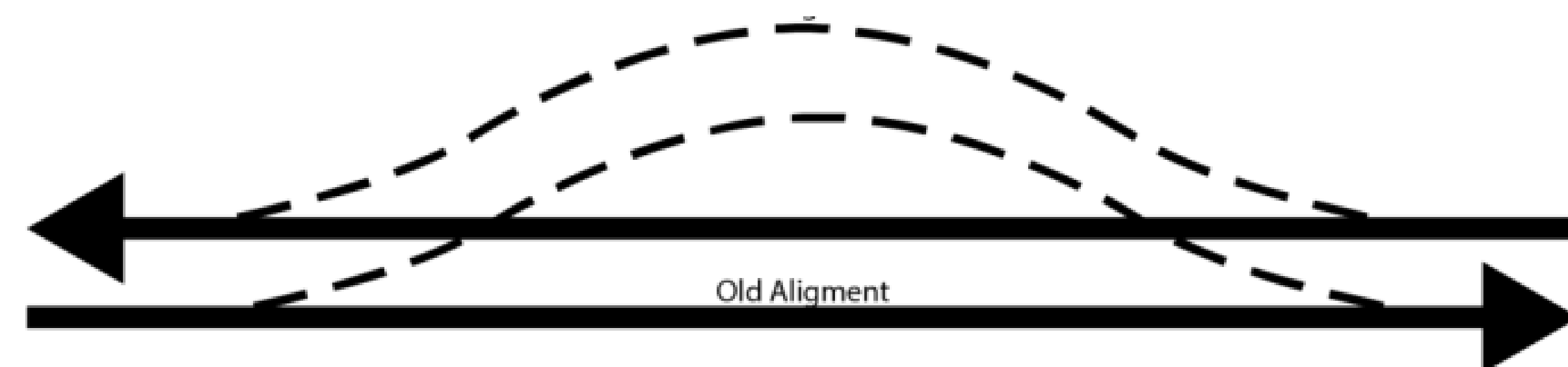
✓ - Indicates likely to meet Purpose & Need



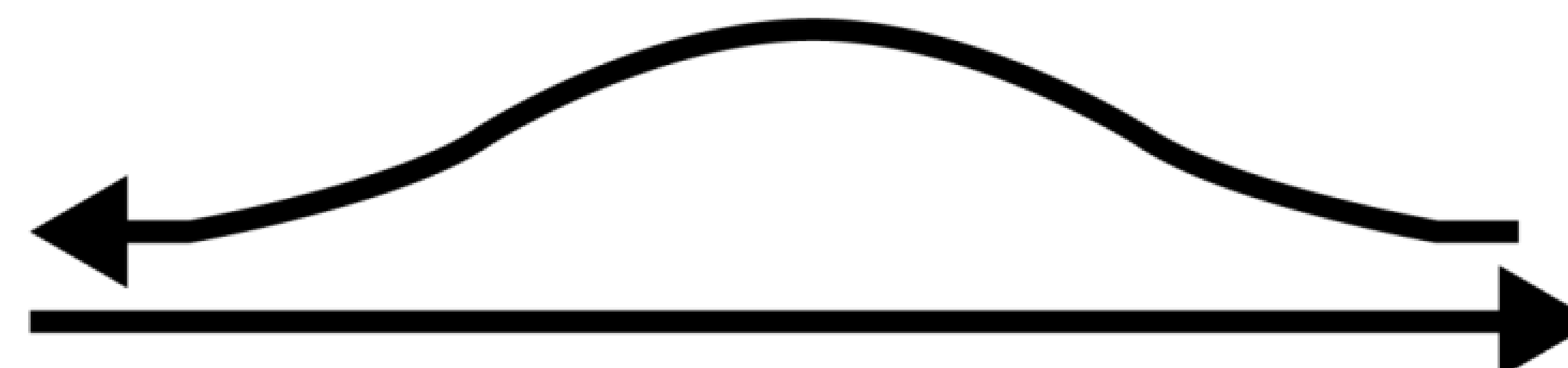
6 Lane



8 Lane

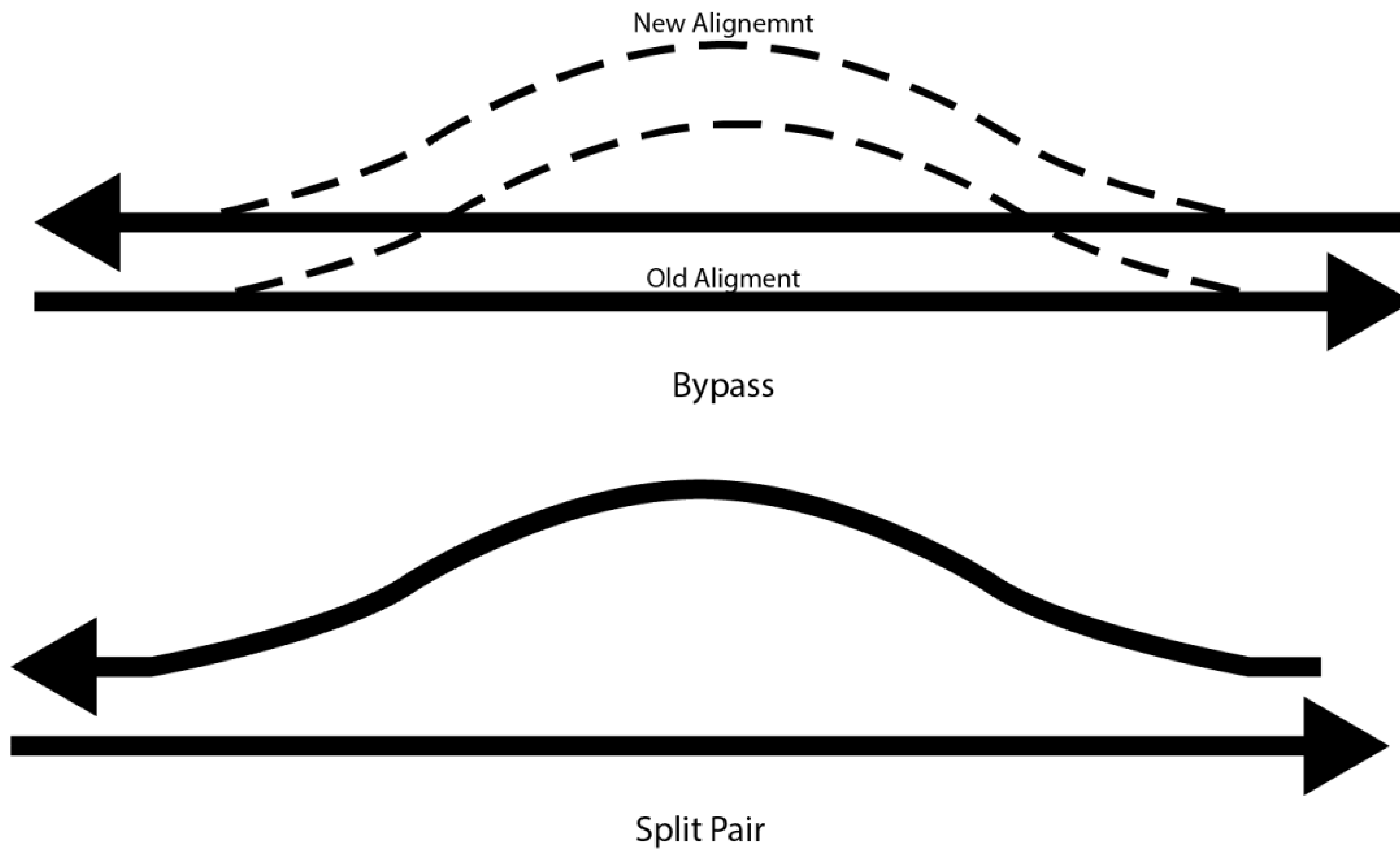
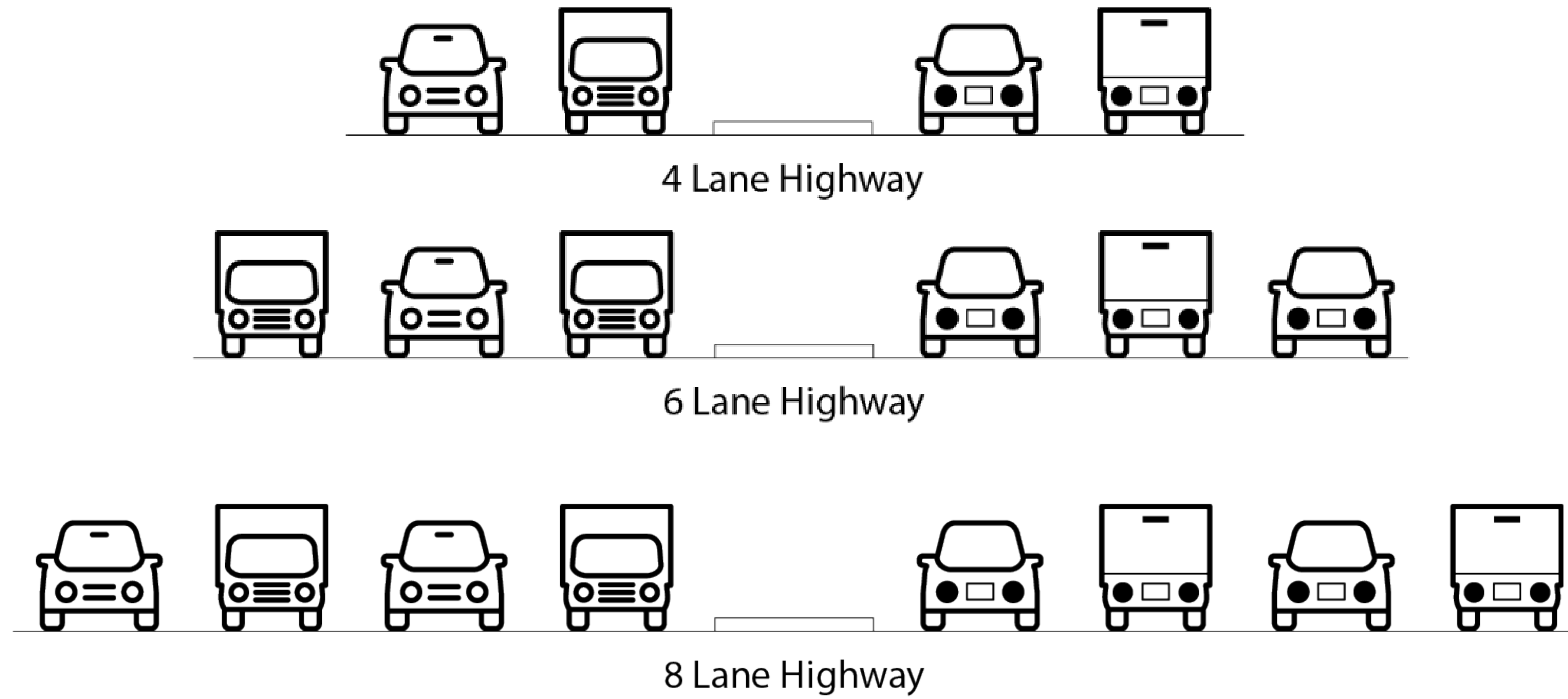


Bypass

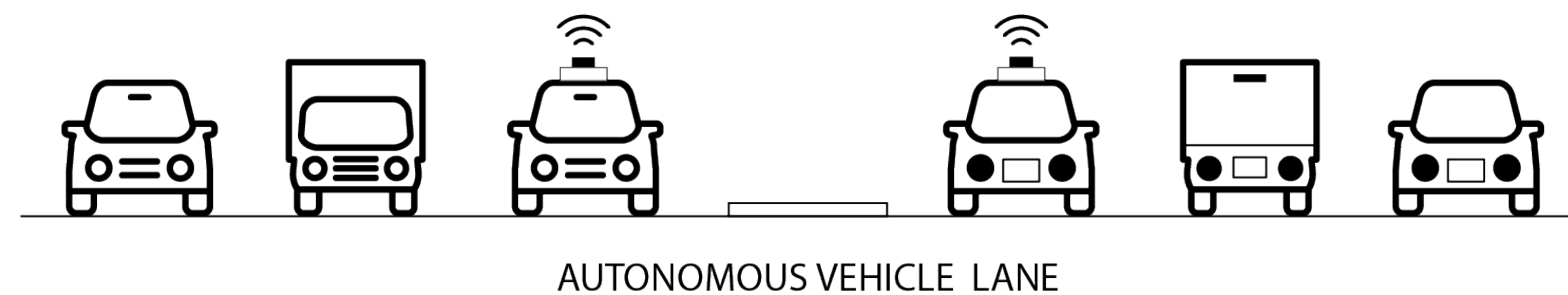
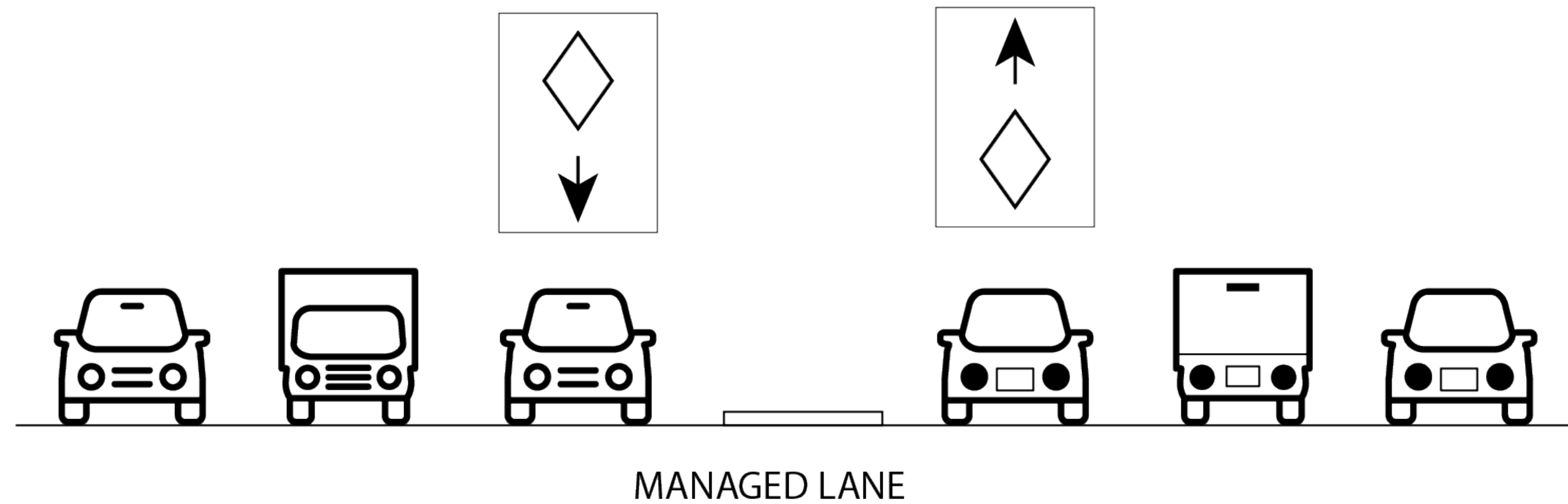
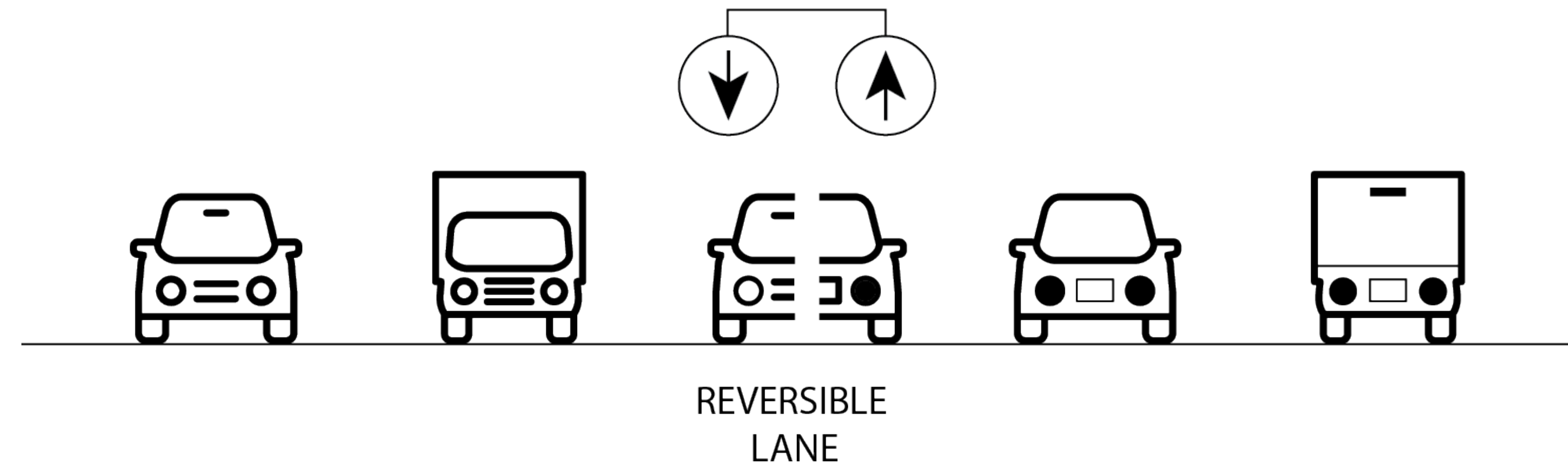


Split Pair

Mainline Highway Improvements Through Lanes and Alignments



Mainline Highway Improvements Managed Lanes and Emerging Vehicle Technology

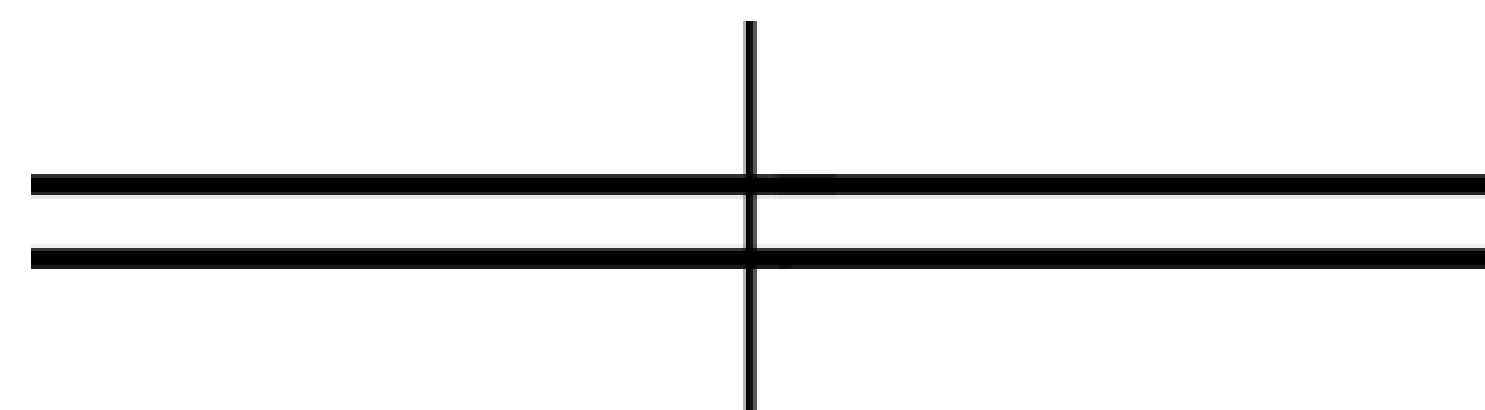


Intersection and Interchange Improvements

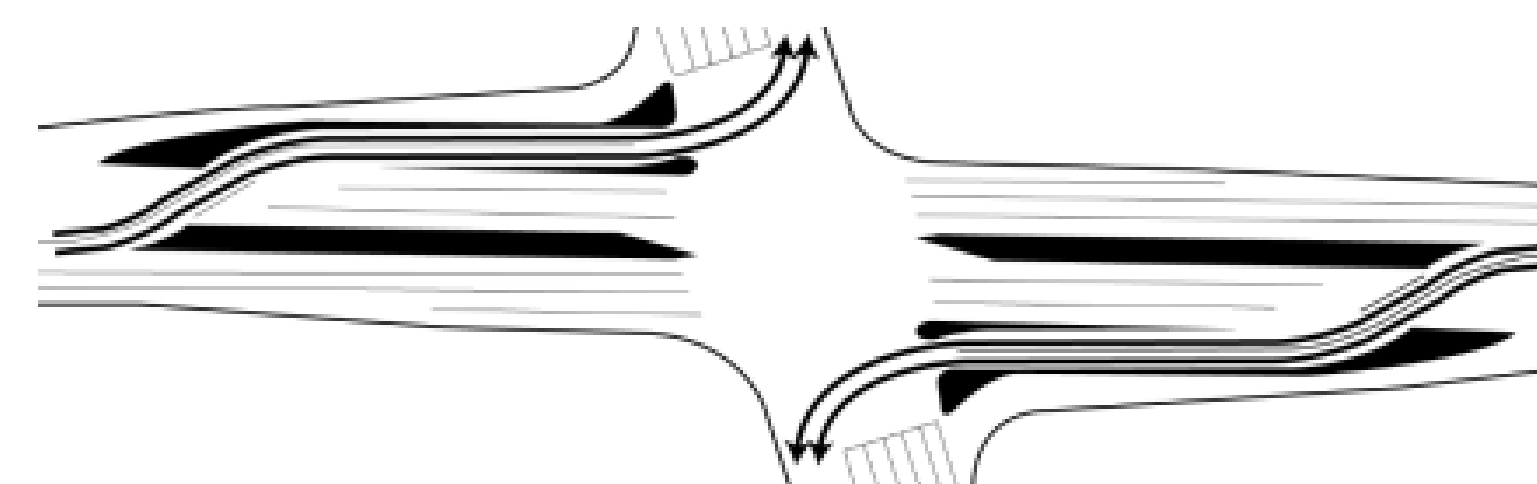
	County Line Rd	C-470	Blakeland Dr	Town Center Dr	HRP	Titan Rd	Airport Rd	SH 67
Conventional At Grade	✓		✓				✓	✓
Innovative At Grade				✓	✓		✓	✓
Grade Separated		✓	✓	✓	✓	✓	✓	✓

✓ - Indicates likely to meet Purpose & Need

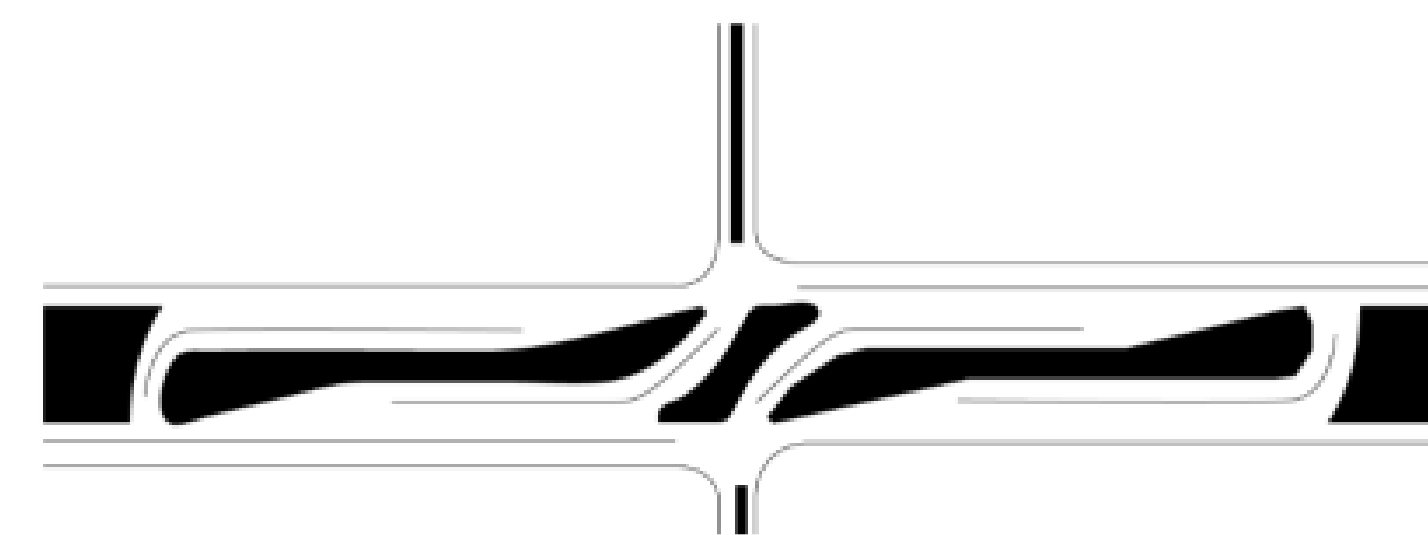
Examples of possible options...



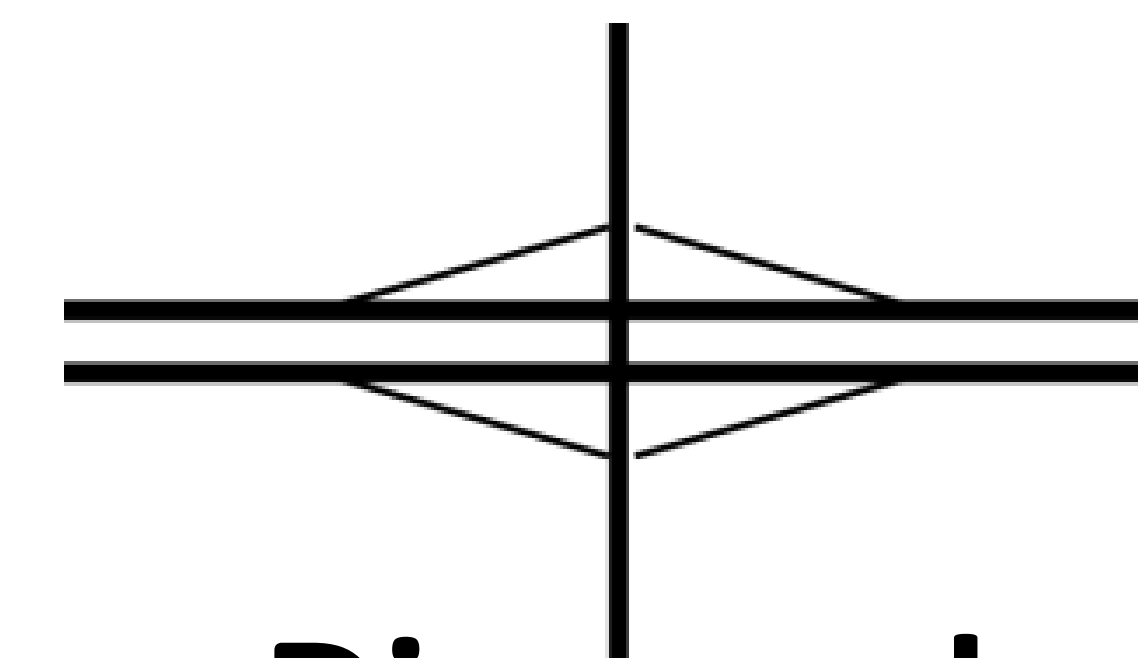
Conventional Intersection



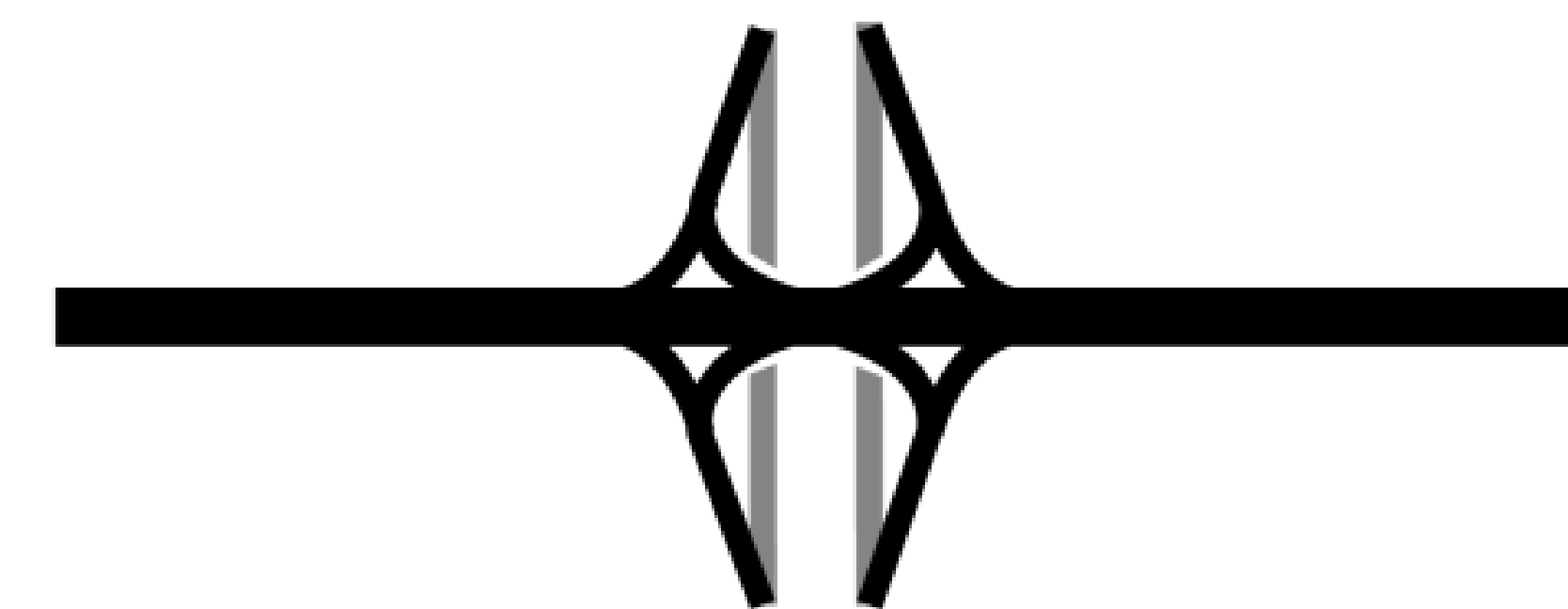
Continuous Flow



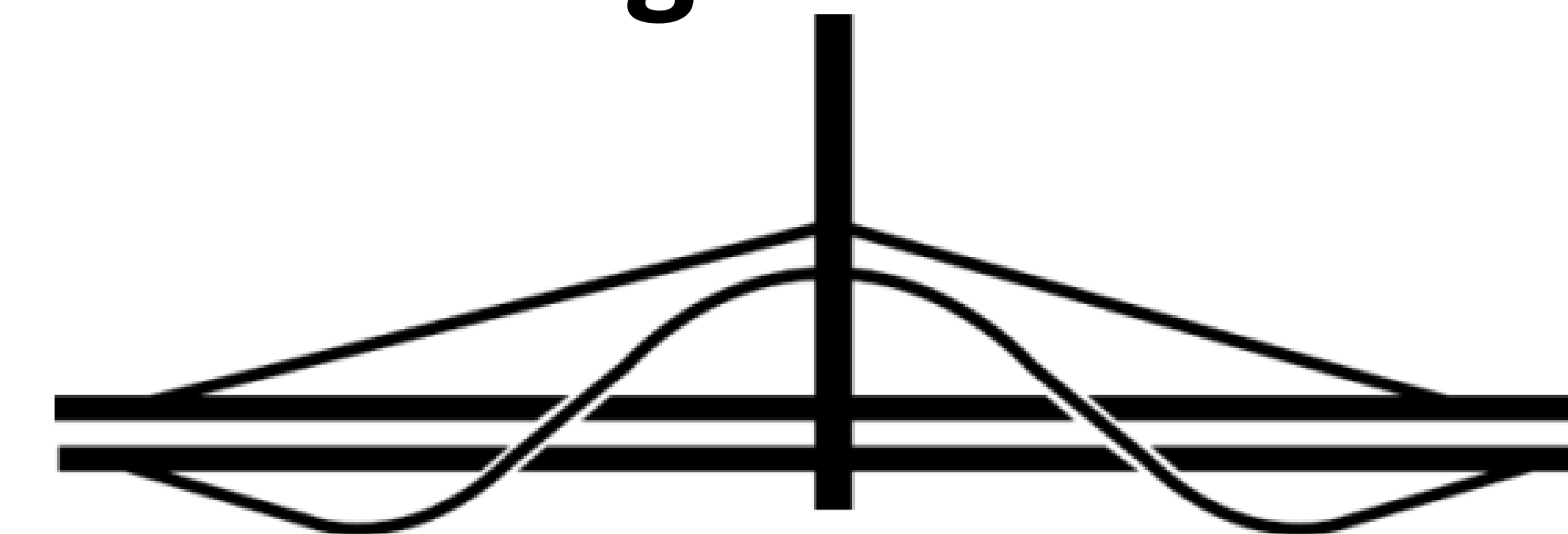
Super Street



Diamond



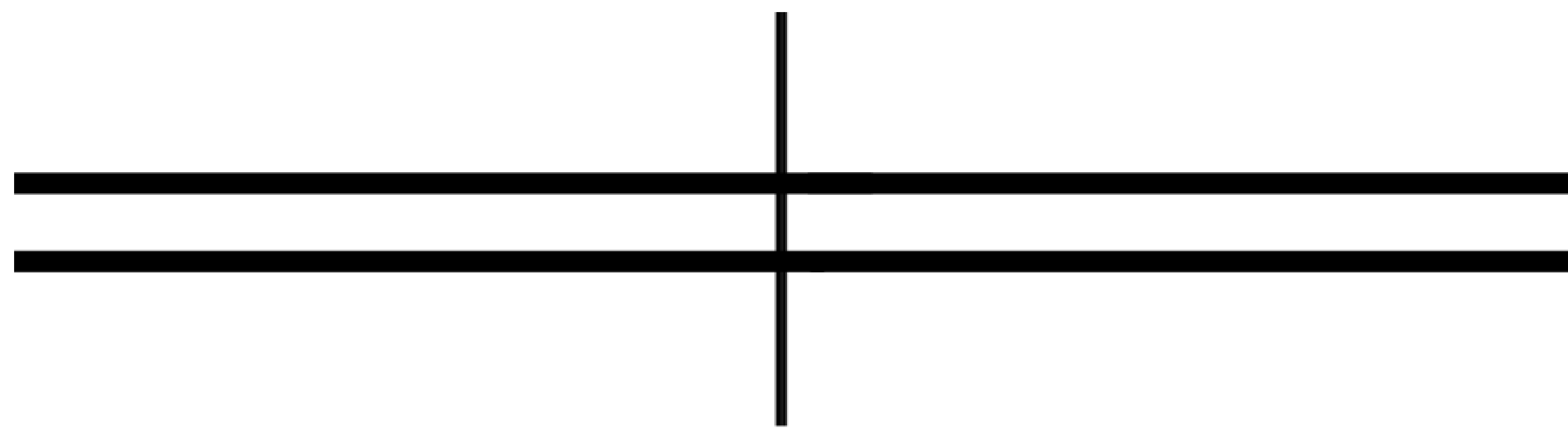
Single Point



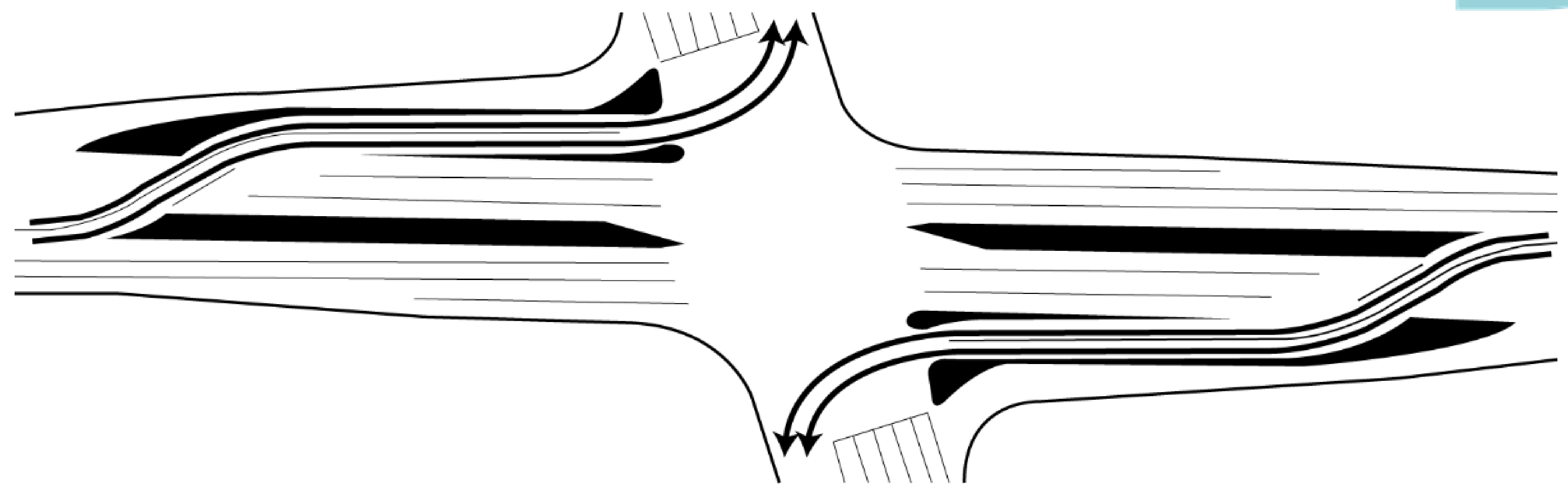
Offset Diamond

Intersection and Interchange Improvements

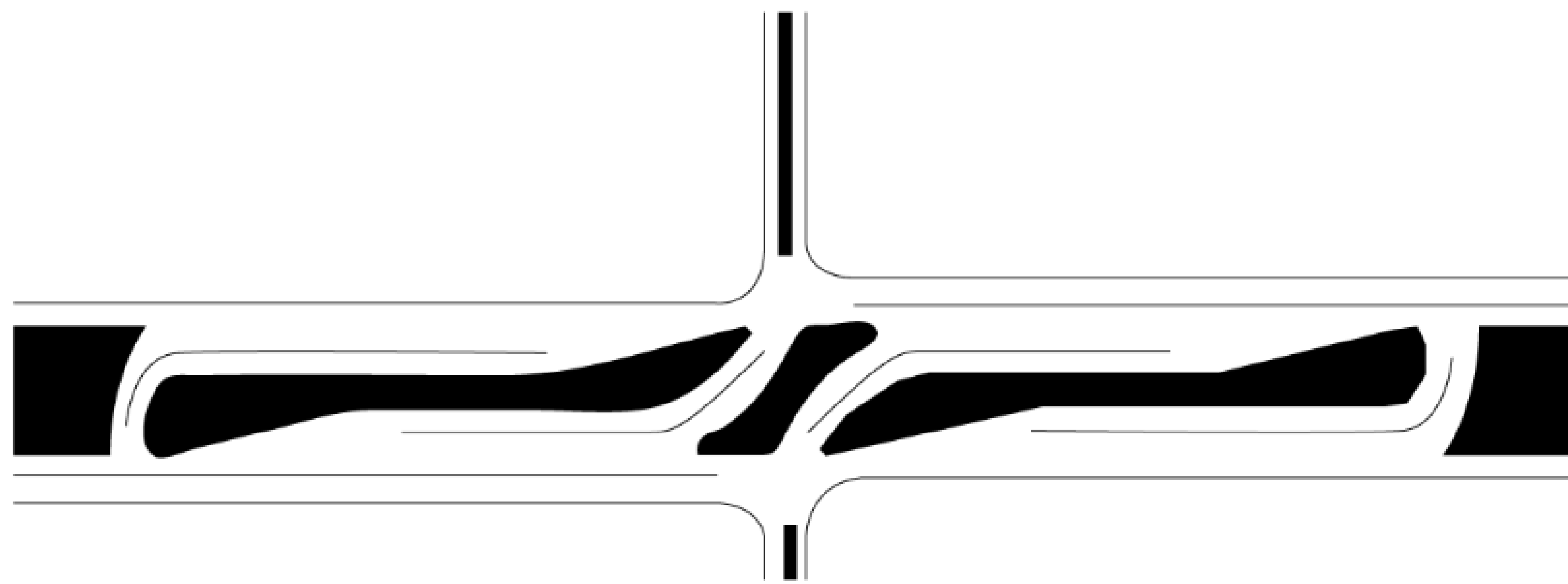
Conventional and Innovative At-Grade Intersections



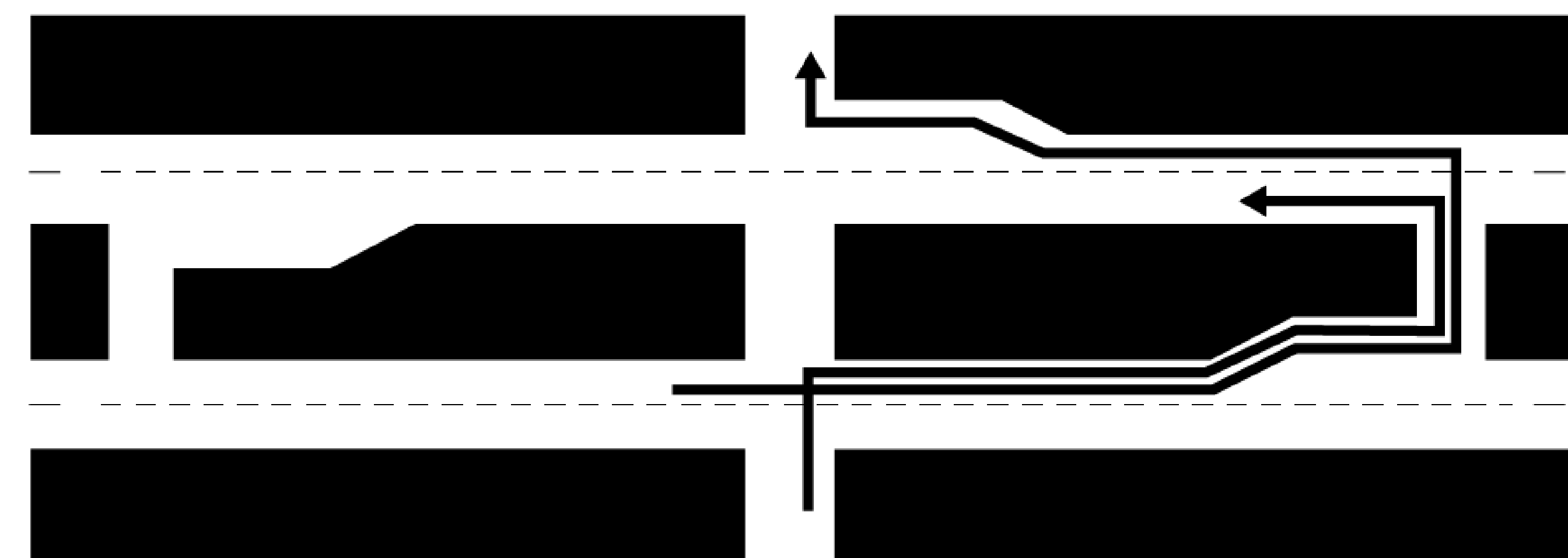
Conventional Intersection



Continuous Flow Intersection



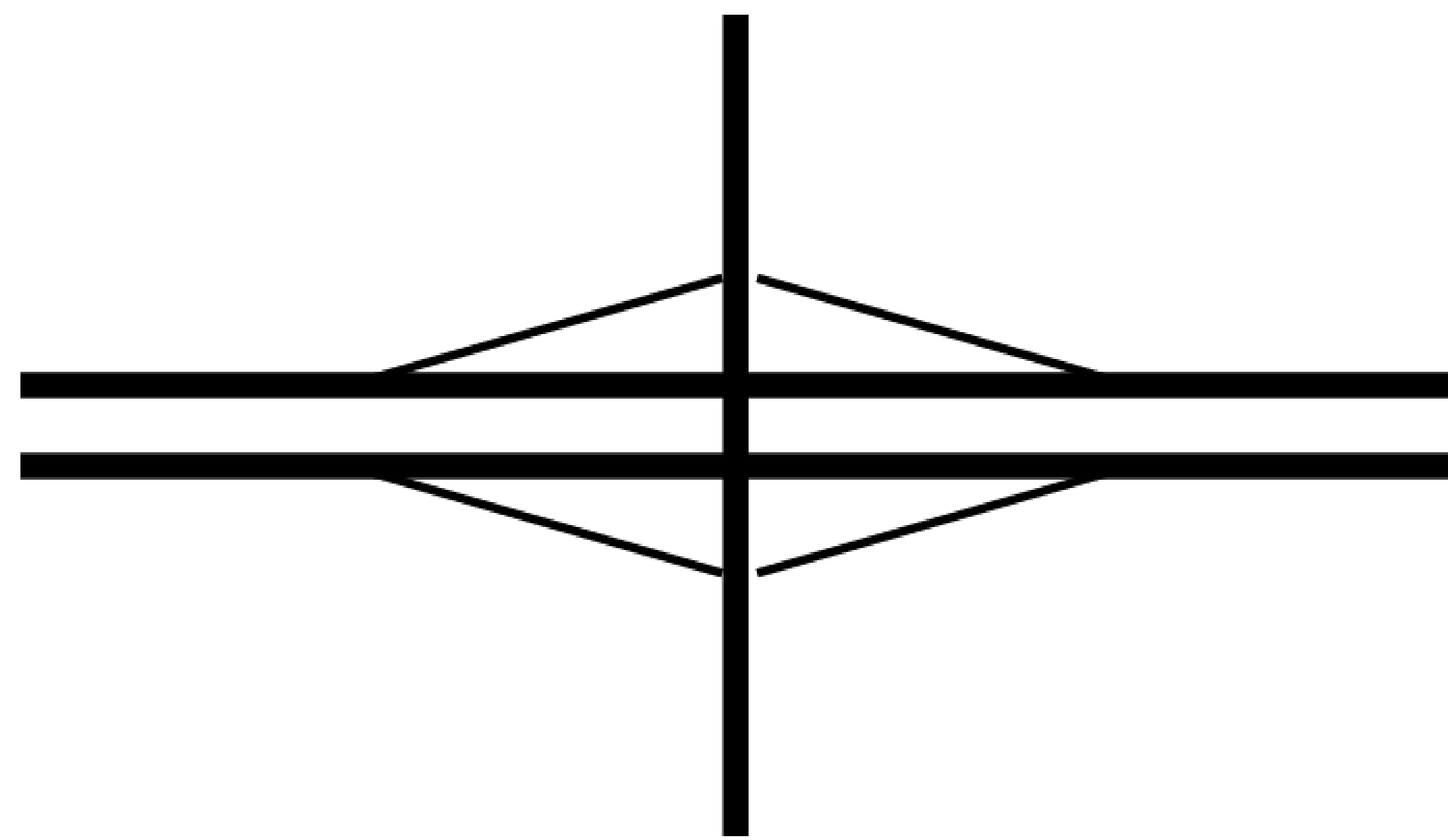
Super Street



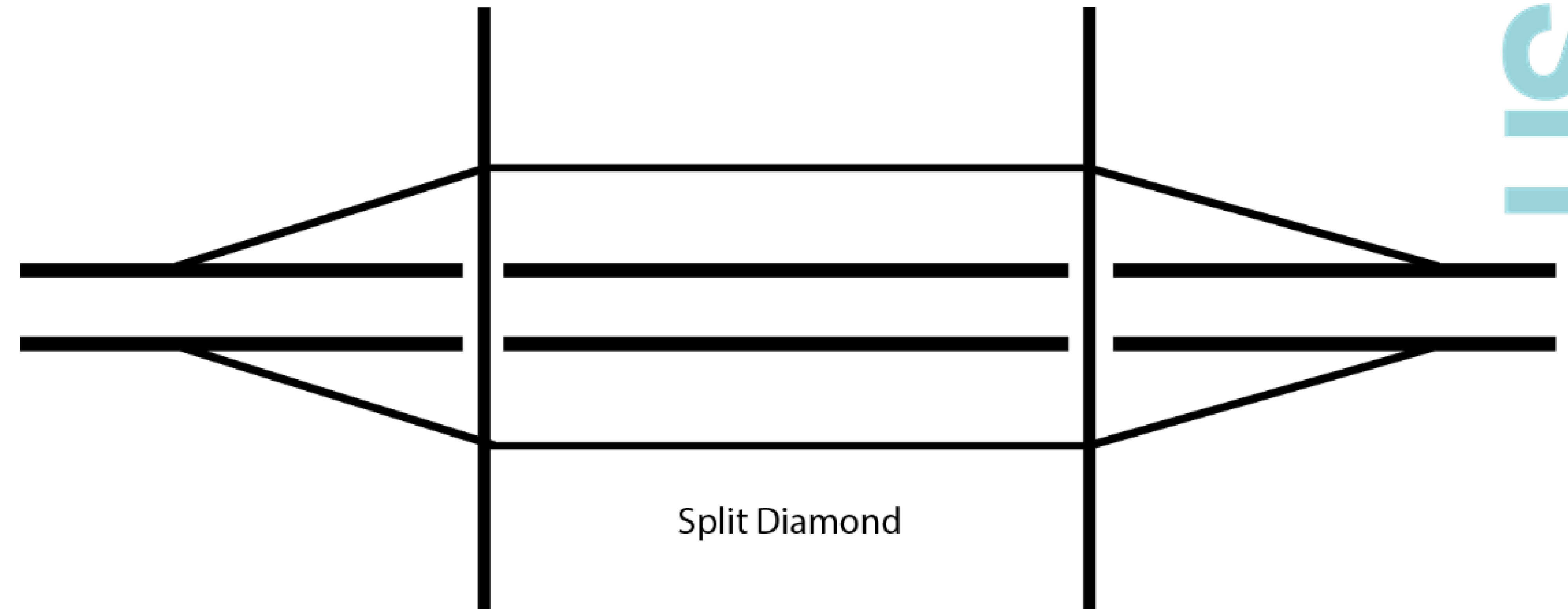
Michigan Left

Intersection and Interchange Improvements

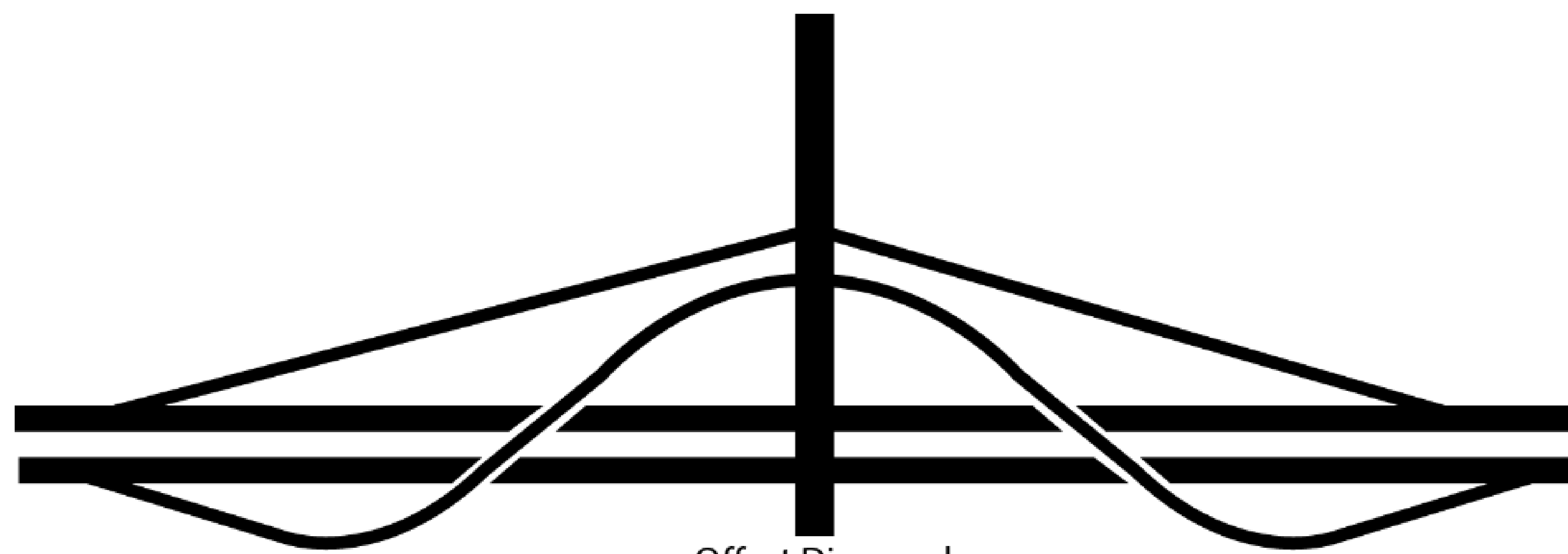
Grade Separated Interchanges



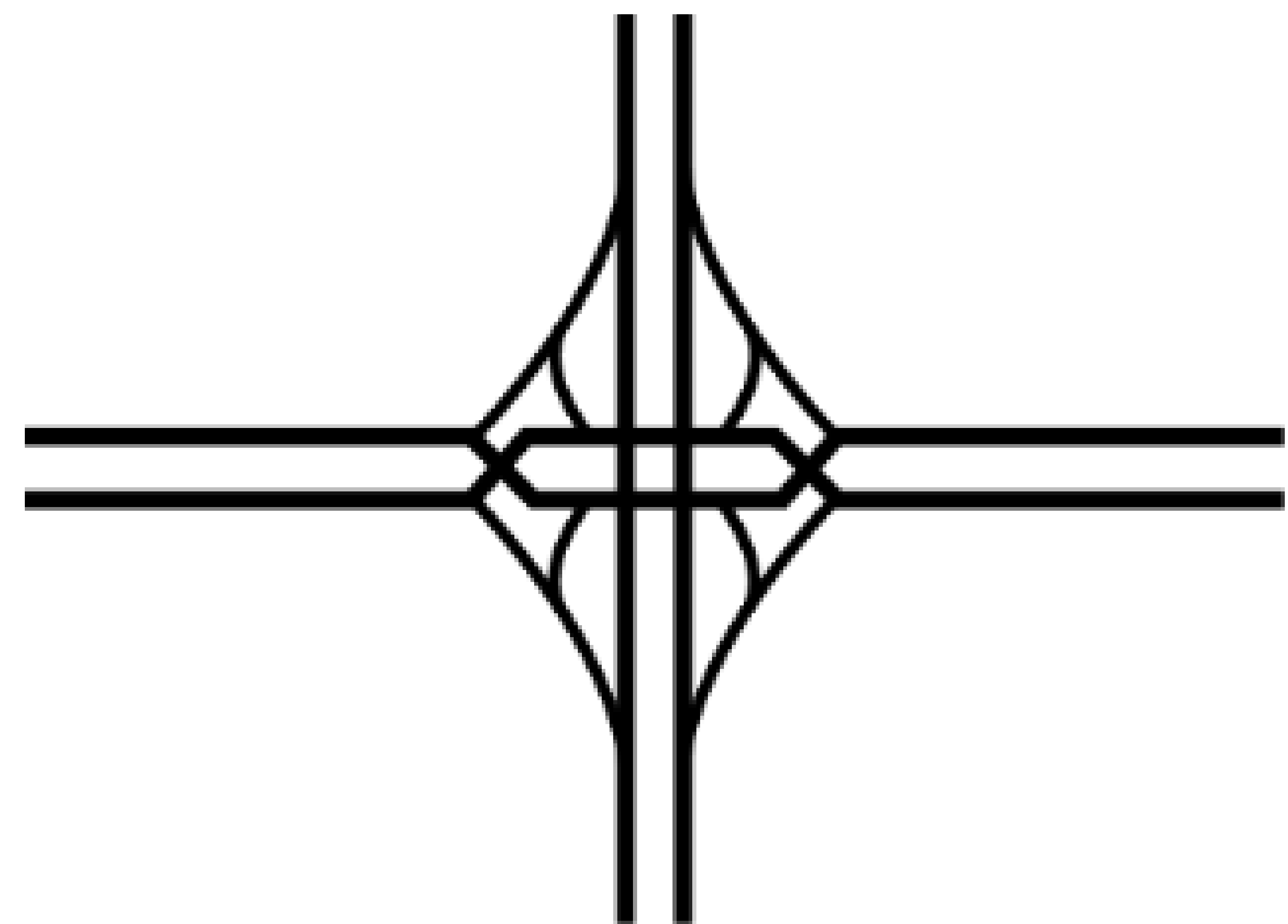
Diamond Interchange



Split Diamond



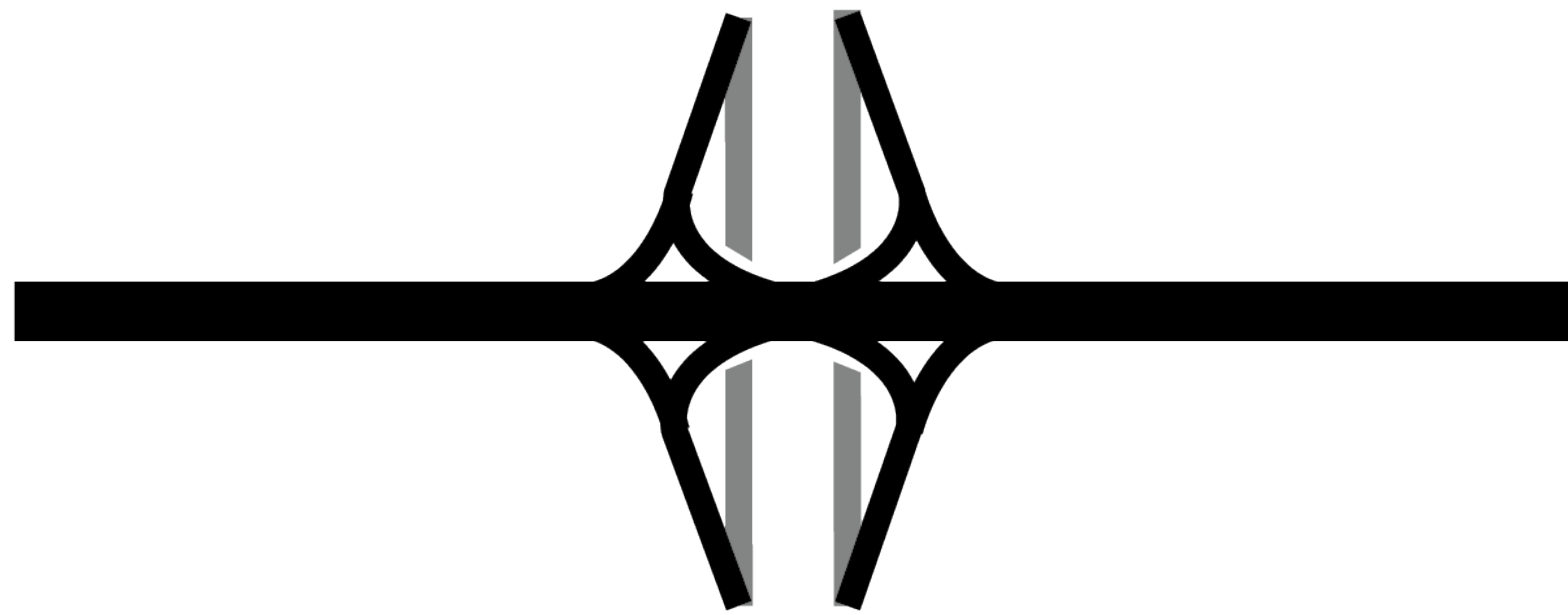
Offset Diamond



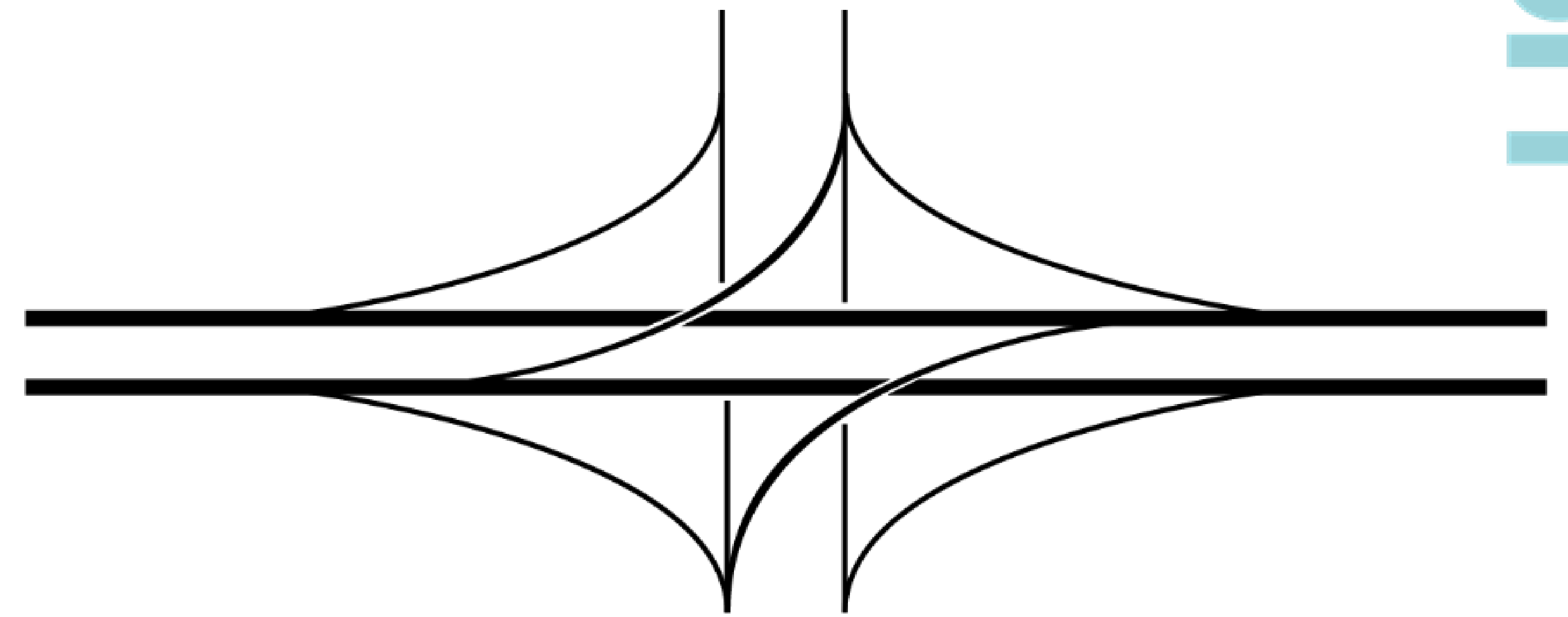
Diverging Diamond

Intersection and Interchange Improvements

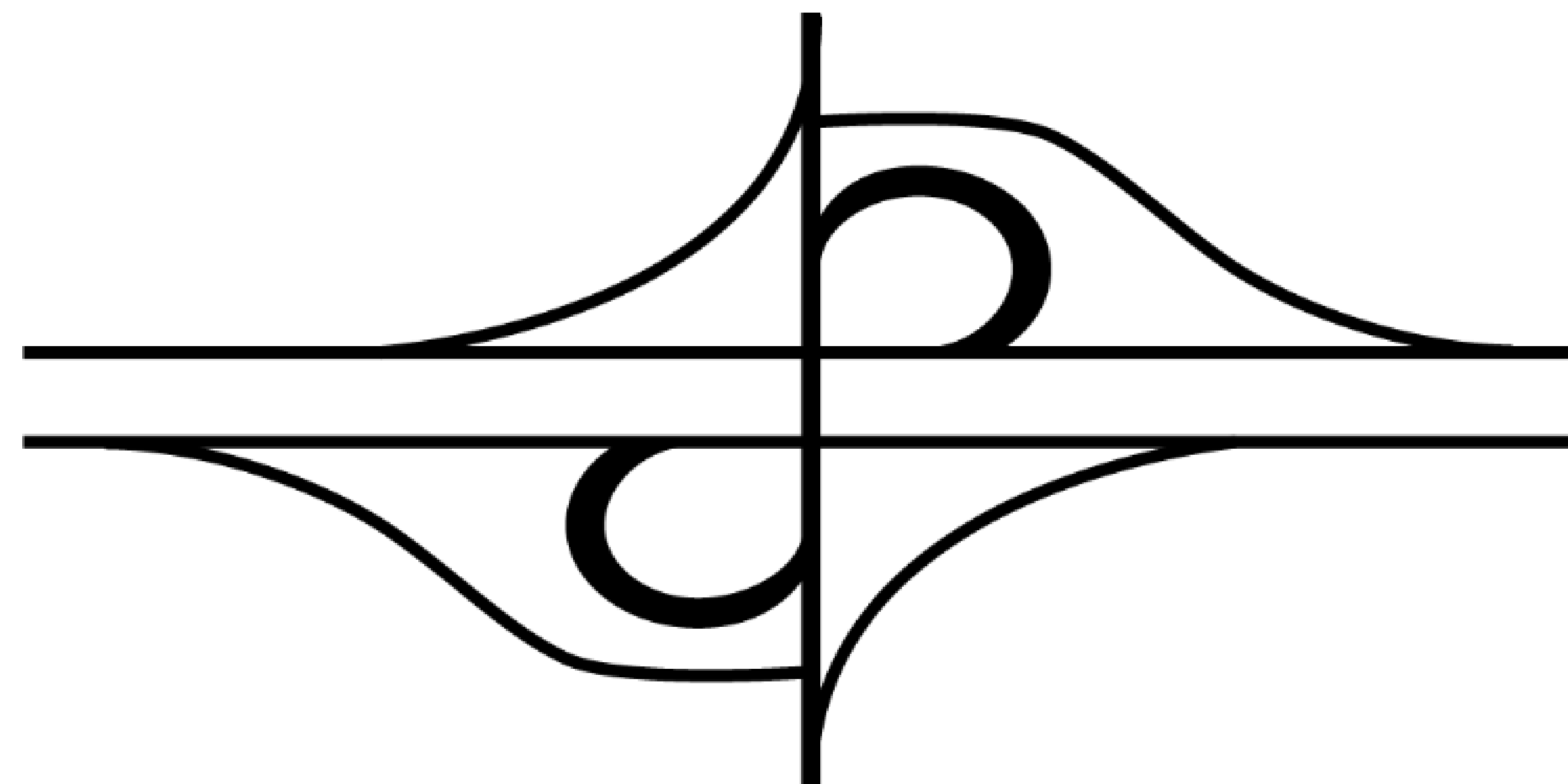
Grade Separated Interchanges



Single Point Urban Intersection



Directional Ramps

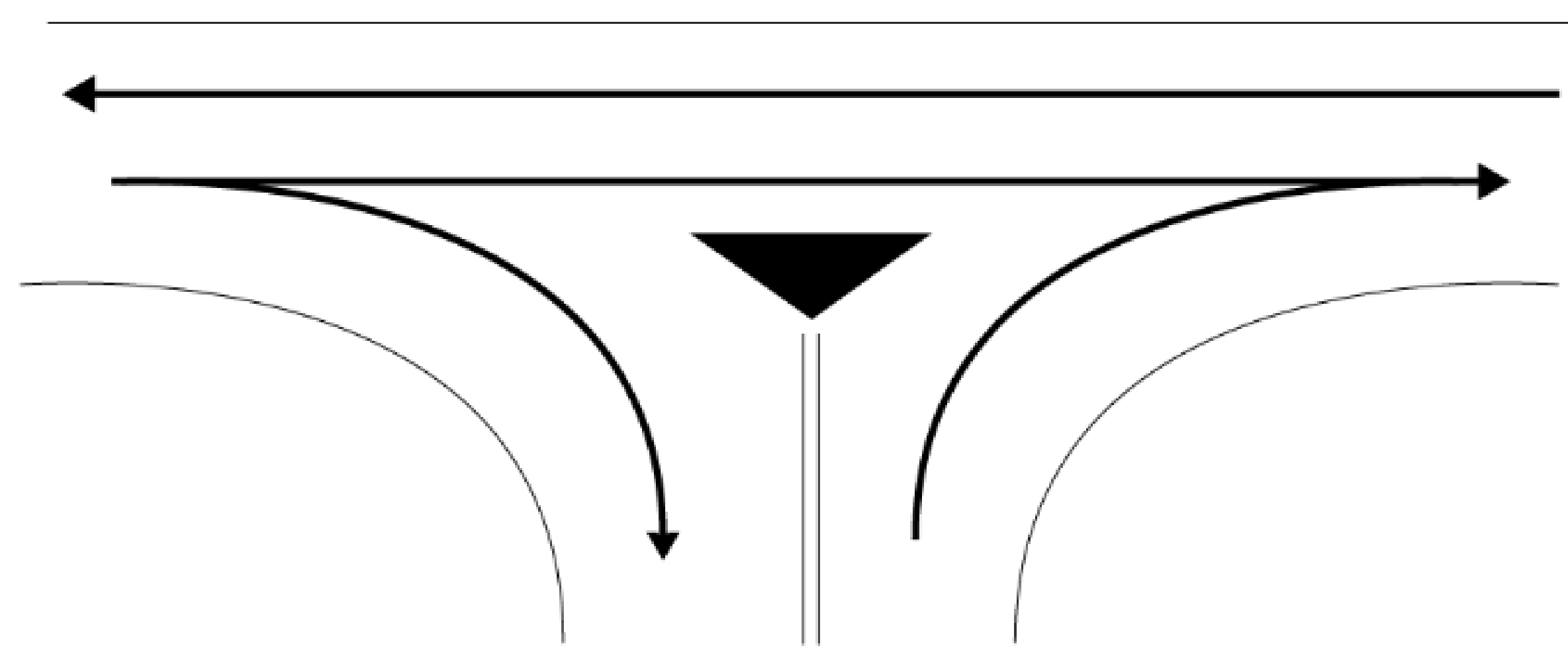


Partial Cloverleaf

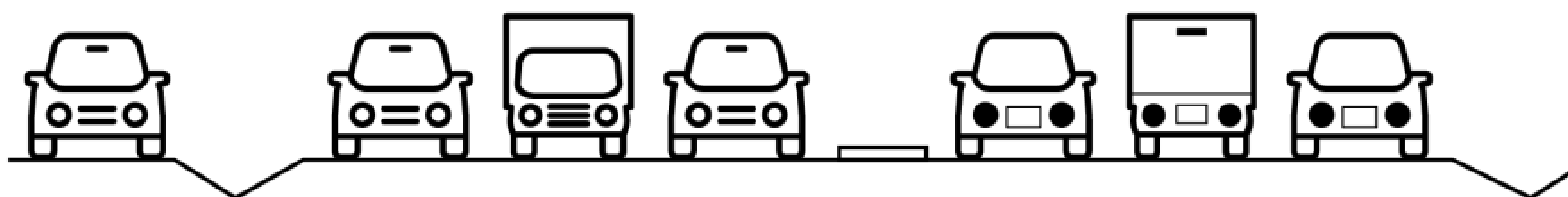
Local Access Changes and Network Connection Improvements

	C-470 TO HRP	HRP to Titan Rd	Titan Rd to Airport Rd	Airport Rd to SH 67
Median / Right in-out	✓	✓	✓	✓
Frontage Road	✓	✓	✓	
Southern Connector				✓

✓ - Indicates likely to meet Purpose & Need

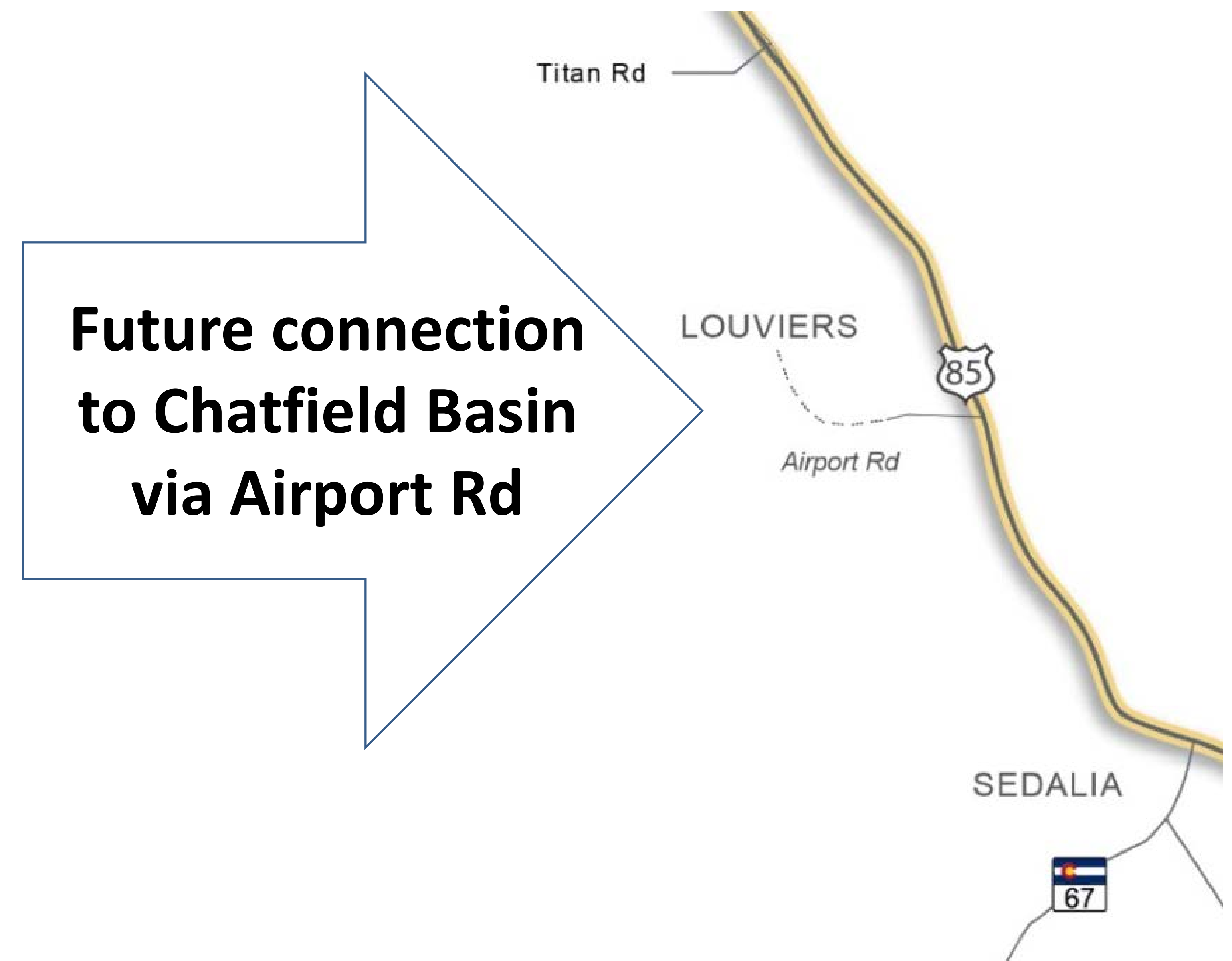


Right In / Right Out



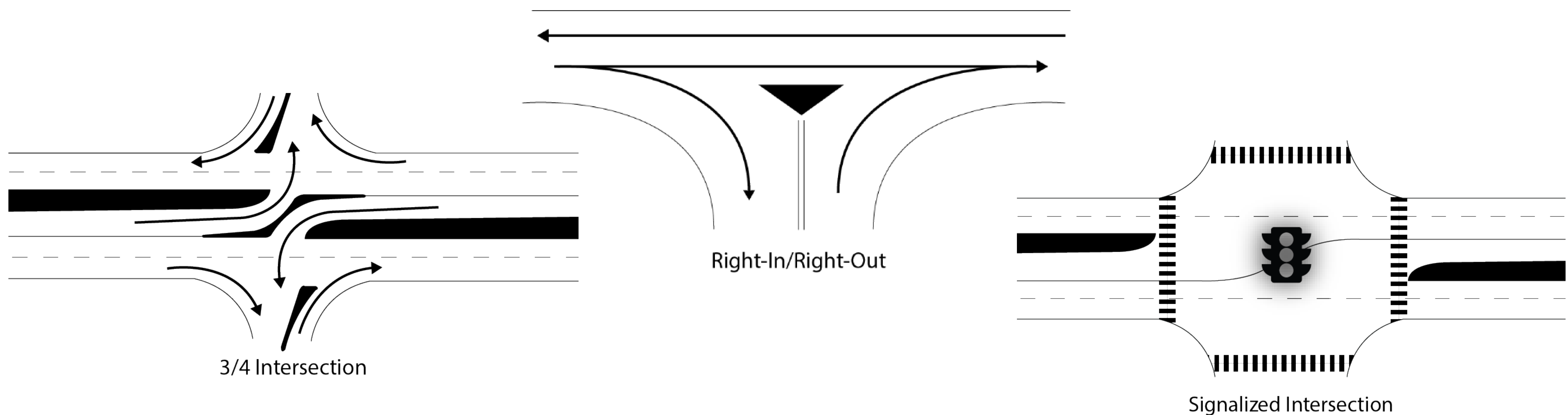
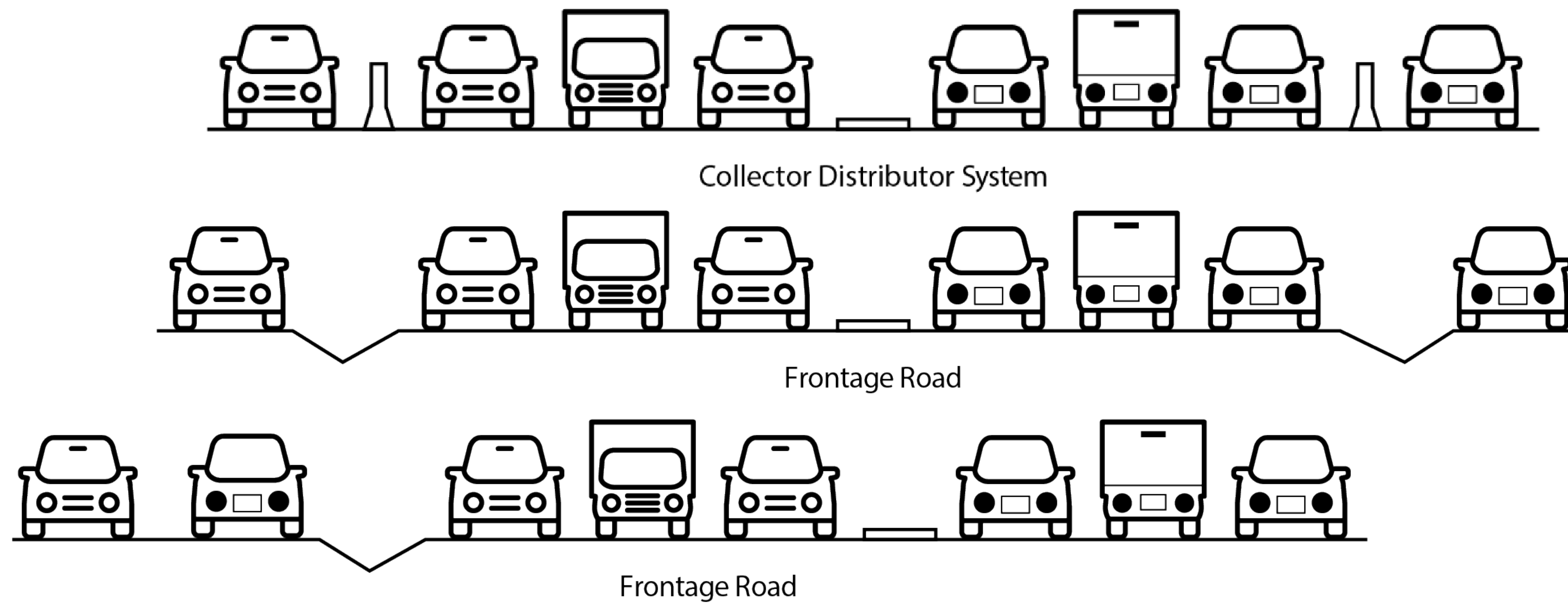
Frontage Road

US 85 Mainline



Future connection to Chatfield Basin via Airport Rd

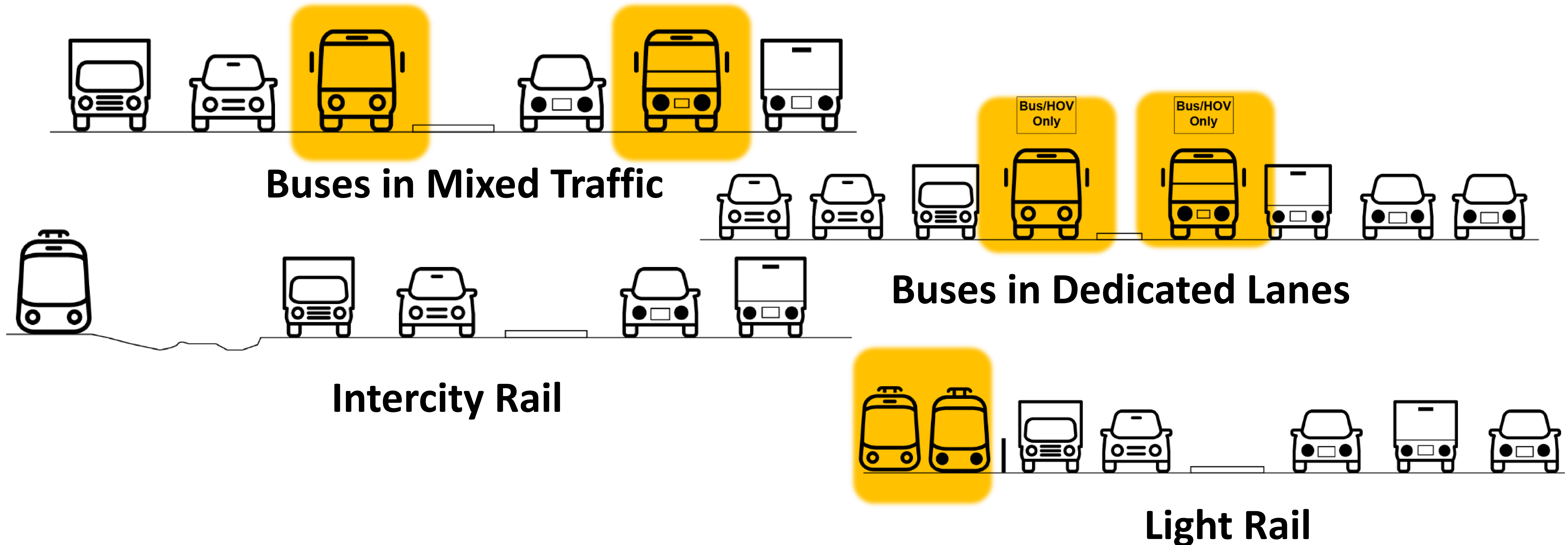
Local Access Changes and Network Connection Improvement Options



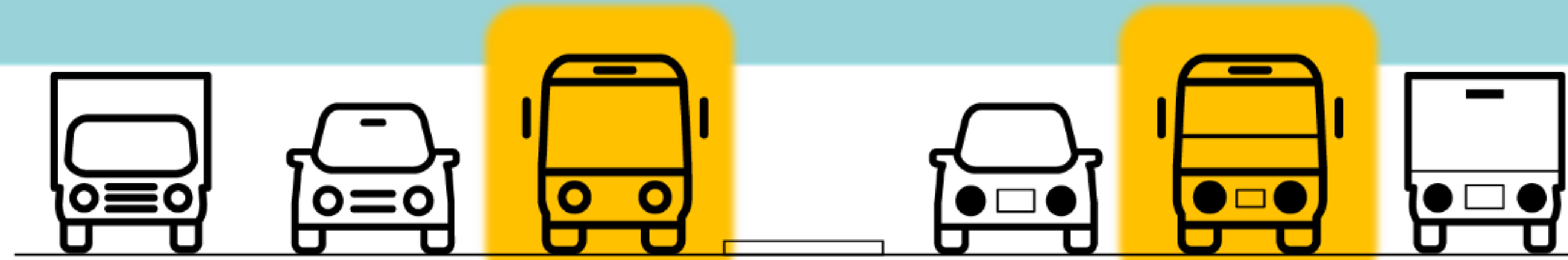
Transit Improvements

	C-470 TO HRP	HRP to Titan Rd	Titan Rd to Airport Rd	Airport Rd to SH 67
Bus in Mixed Traffic	✓	✓	✓	✓
Bus in dedicated lane	✓	✓		
Rail Transit	✓	✓	✓	✓
Park-n-Ride		✓		

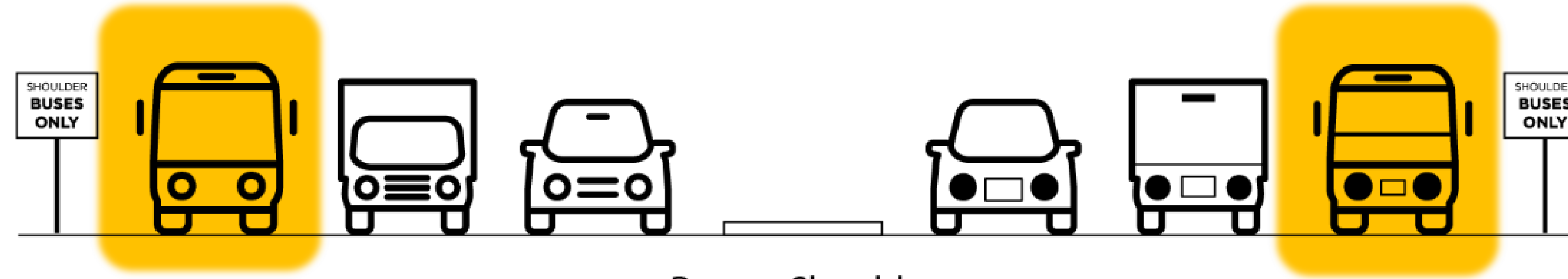
✓ - Indicates likely to meet Purpose & Need



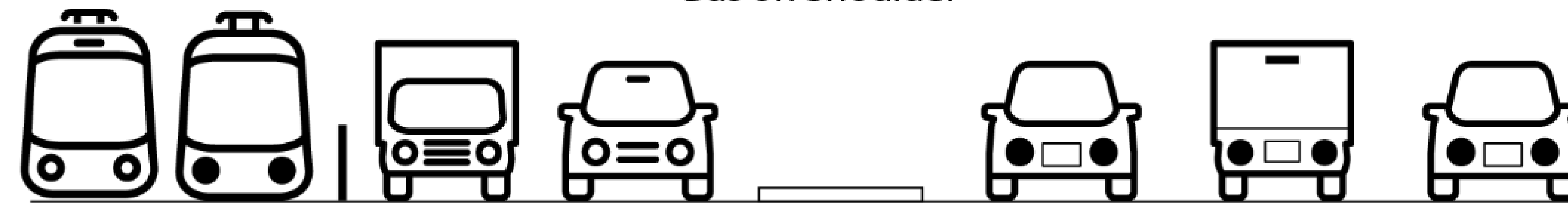
Illustrative Examples of Transit Improvements



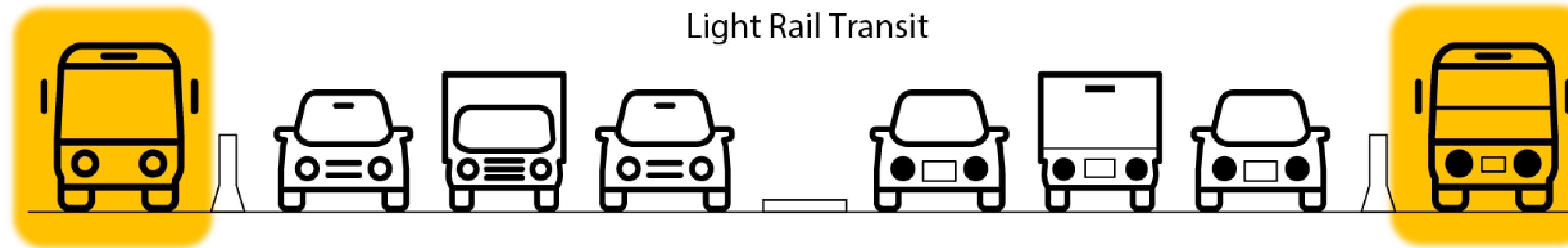
Bus in Mixed Traffic



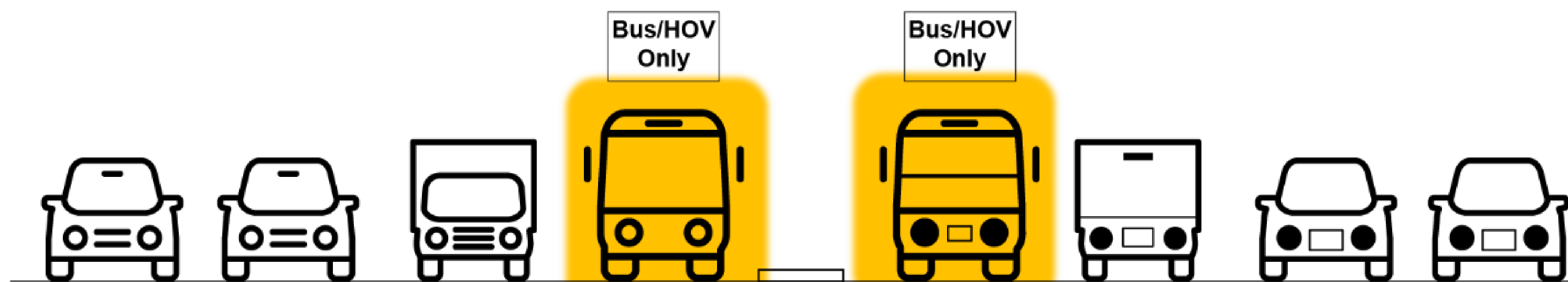
Bus on Shoulder



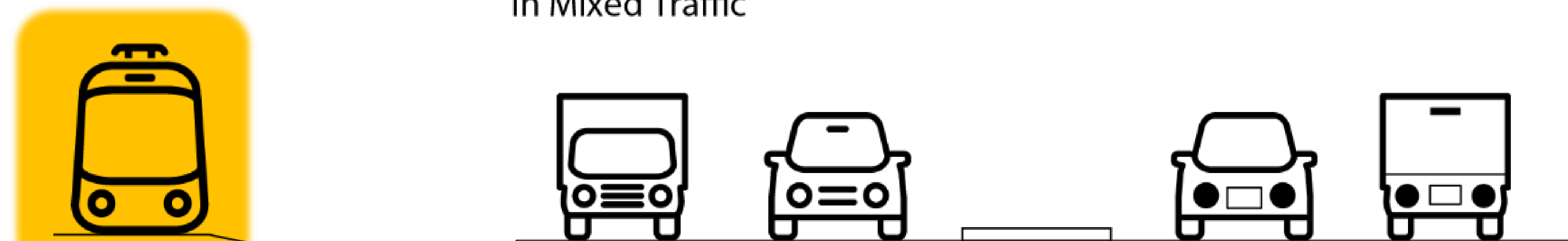
Light Rail Transit



Bus Rapid Transit (BRT)



Bus Rapid Transit (BRT)
in Mixed Traffic



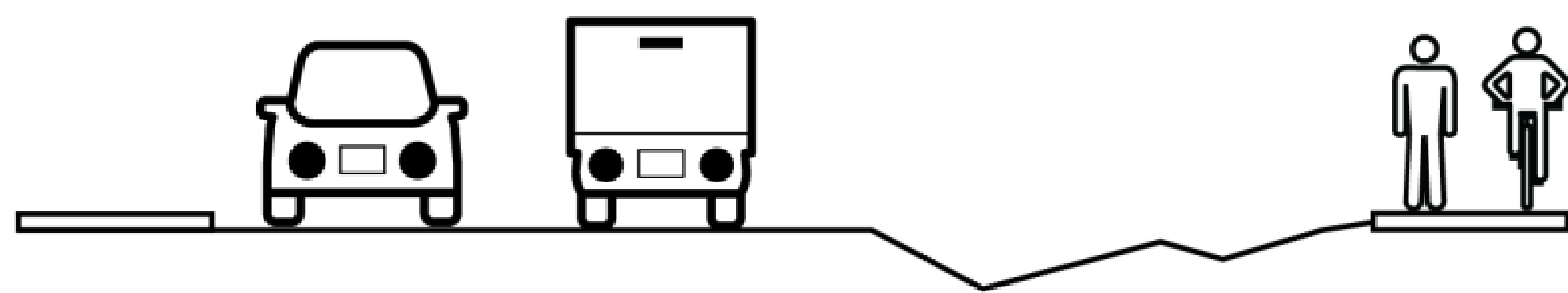
(In RR
ROW)

Commuter Rail / Intercity Passenger Rail

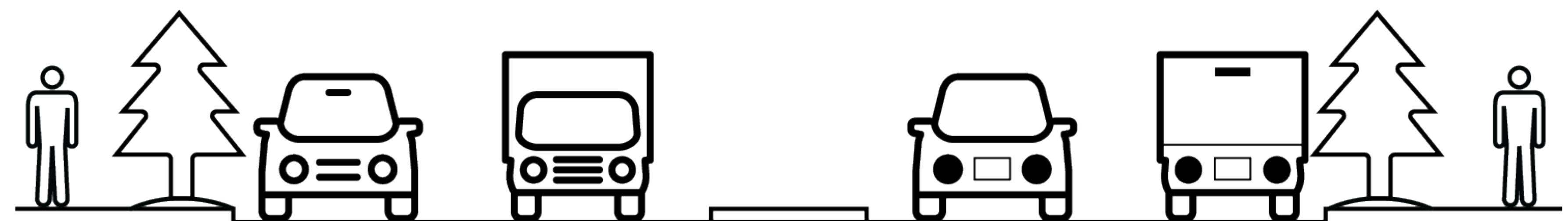
Bicycle and Pedestrian Improvements

	C-470 TO HRP	HRP to Titan Rd	Titan Rd to Airport Rd	Airport Rd to SH 67
2-Way Multi-Use Path	✓	✓	✓	✓
Detached Sidewalk	✓	✓		
Attached Sidewalk	✓	✓		

✓ - Indicates likely to meet Purpose & Need



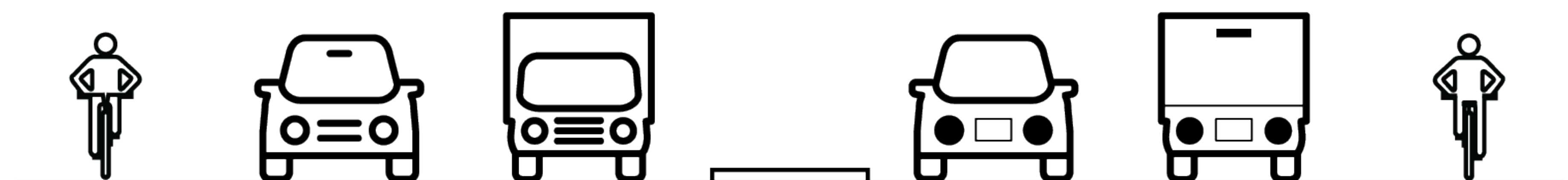
2 Way Multi-Use Path



Detached Sidewalk

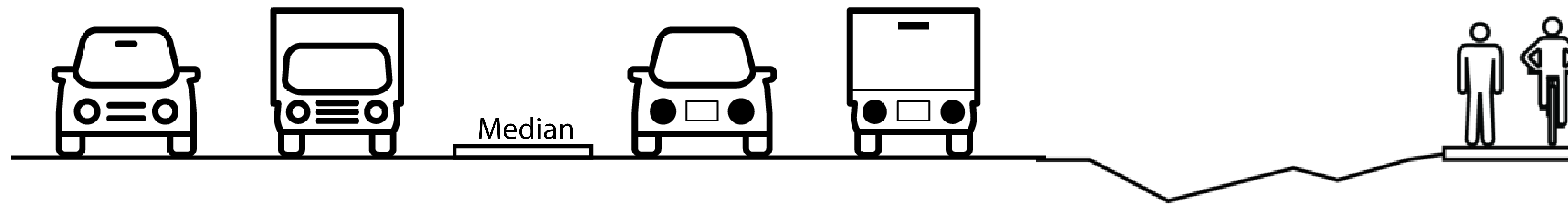


Attached Sidewalk



Bikes on Shoulders

Bicycle Improvements



Two Way Multiuse Path

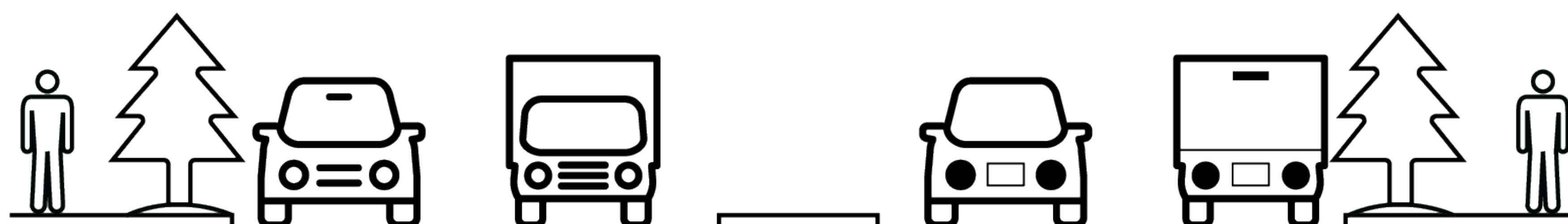


Split Shoulder Bike Facility

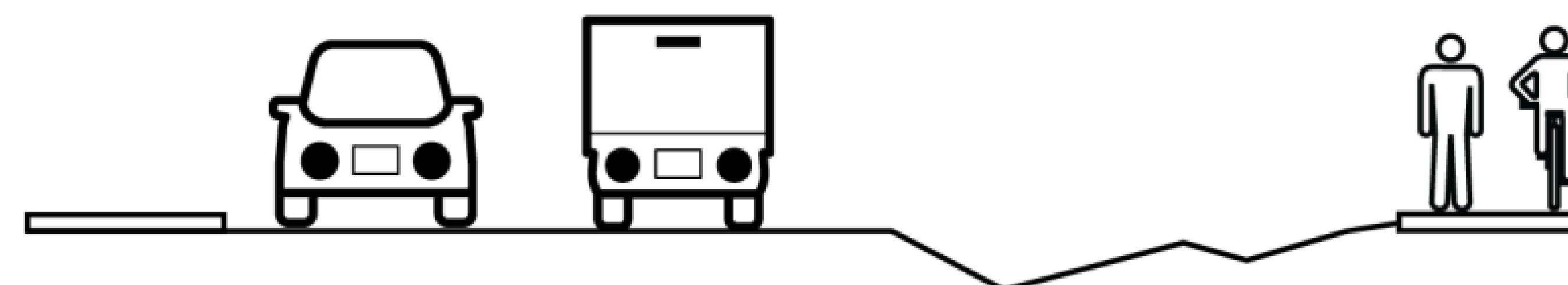
Pedestrian Improvements



Attached Sidewalk



Detached Sidewalk



2 Way Multi-Use Path

