85 CORRIDOR IMPROVEMENTS

PEL Study

Level 2 Alternatives

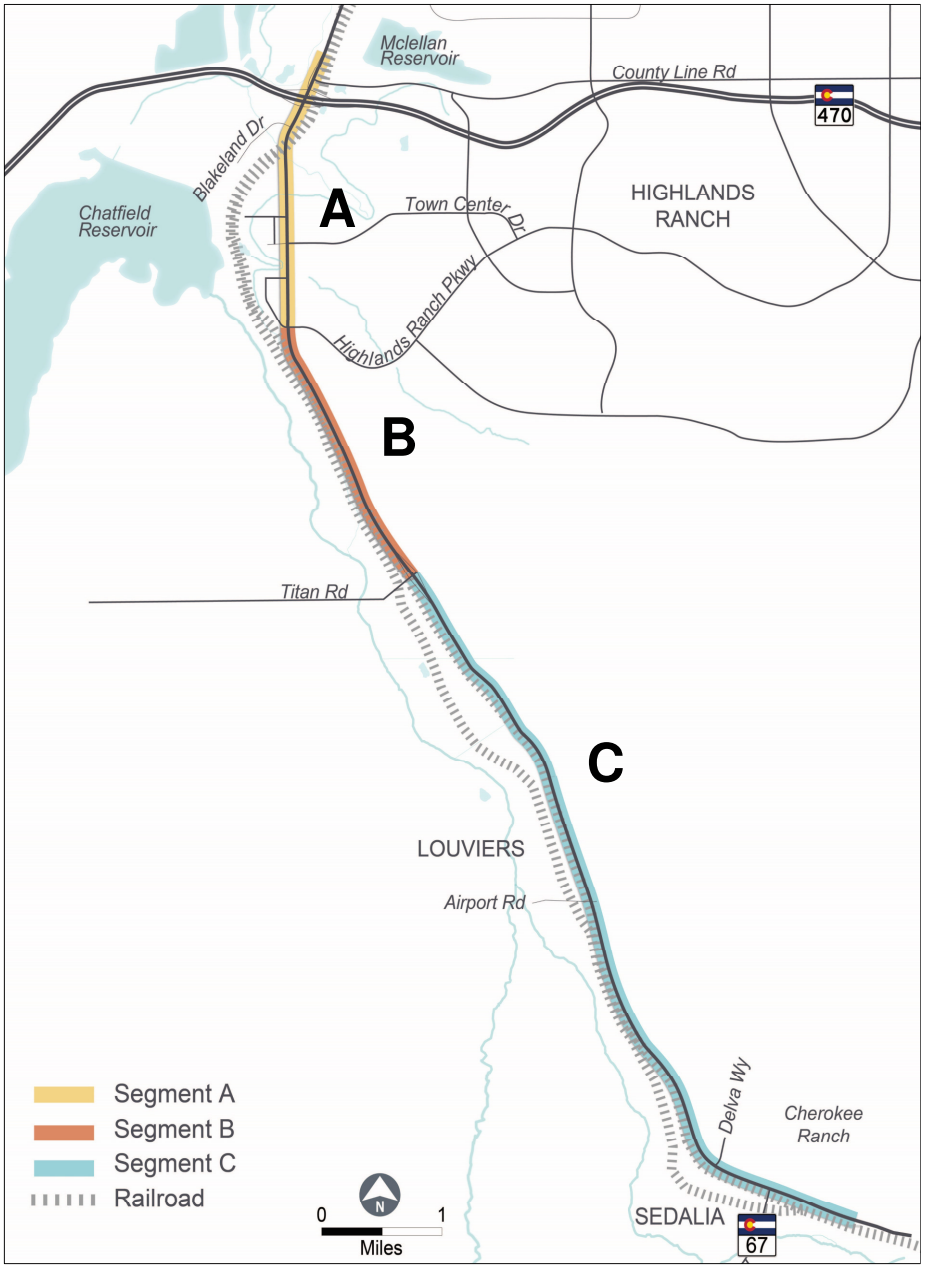
Level 2 Introduction

Level 1 Summary

- Level 1 identified 41 different ideas for improving the US 85 Corridor.
- 29% of the possible options were eliminated during the Phase 1 Screening Process.

Level 2 Alternatives

- The remaining possible options were used to develop 8 Level 2 segment alternatives with several sub-alternative options.
  - ✓Segment A (Highlands Ranch Parkway to County Line Road) – 4 alternatives
  - ✓Segment B (Titan Road to Highlands Ranch Parkway) – 2 Alternatives
  - ✓Segment C (SH 67 to Titan Road) – 1 Alternatives
- There are 11 access related sub-alternatives to local streets intersecting US 85.



No Action (FEIS Selected Alternative)

Highway

- 6 lanes from Highlands Ranch Parkway to C-470
- 4 lanes from ½ mile south of SH 67 to Highlands Ranch Parkway

Access

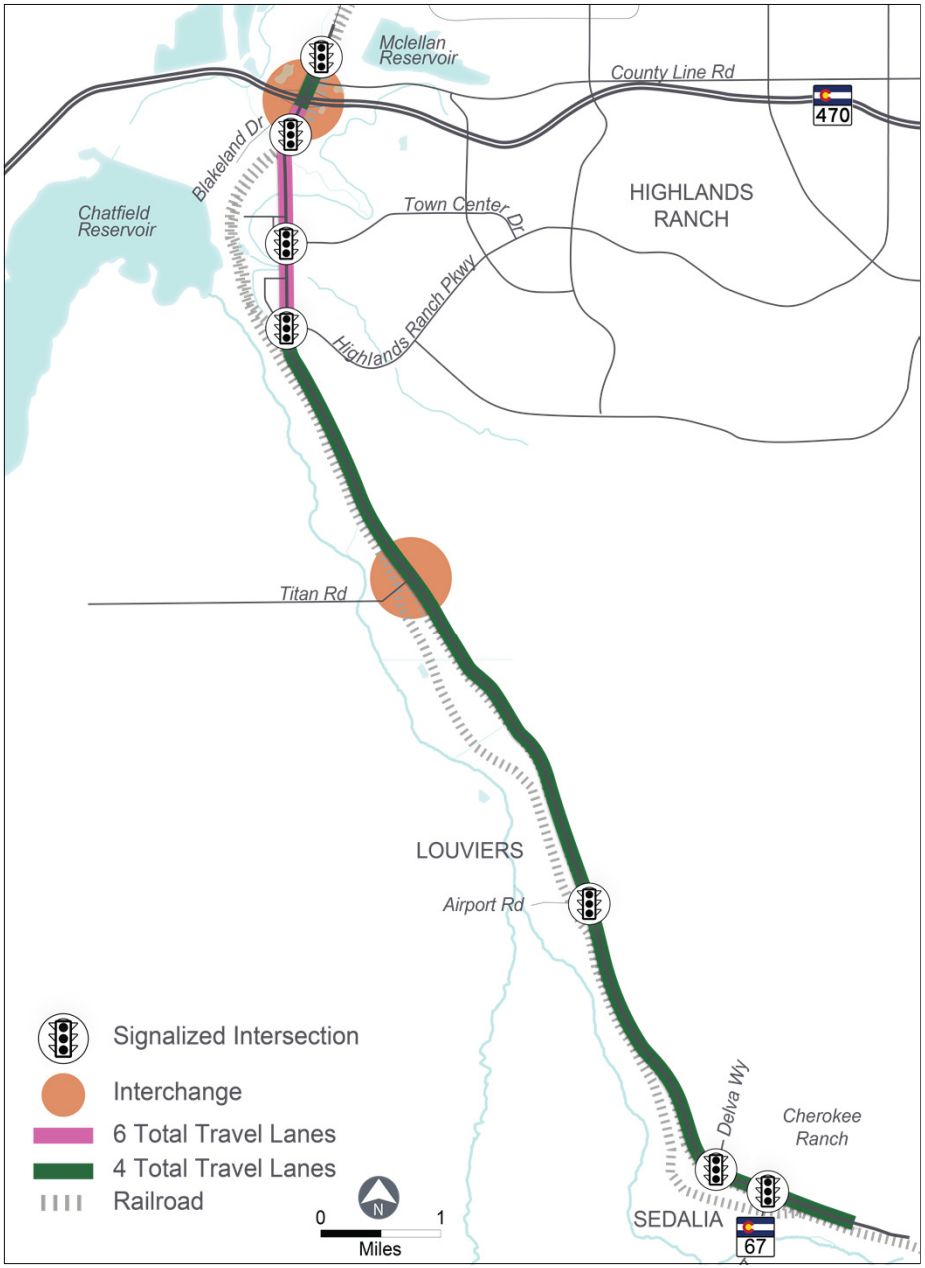
- Approved Access Management Plan (2001)

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 (Blakeland Drive to C-470)
- Bike/Ped Facility detached east side of US 85 (Highlands Ranch Parkway to Blakeland Drive)
- Wide bike shoulder on both sides of US 85 (Delva Way to Titan Road to Highlands Ranch Parkway)
- Bike/Ped facility attached on west side of US 85 (SH 67 to Delva Way)



Segment A Alternatives
(Highlands Ranch Pkwy to ½ Mile north of County Line Rd)

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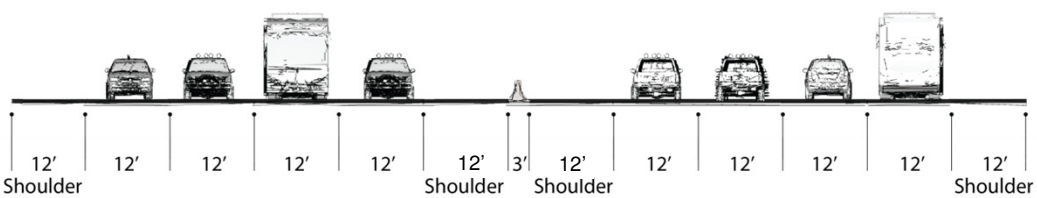
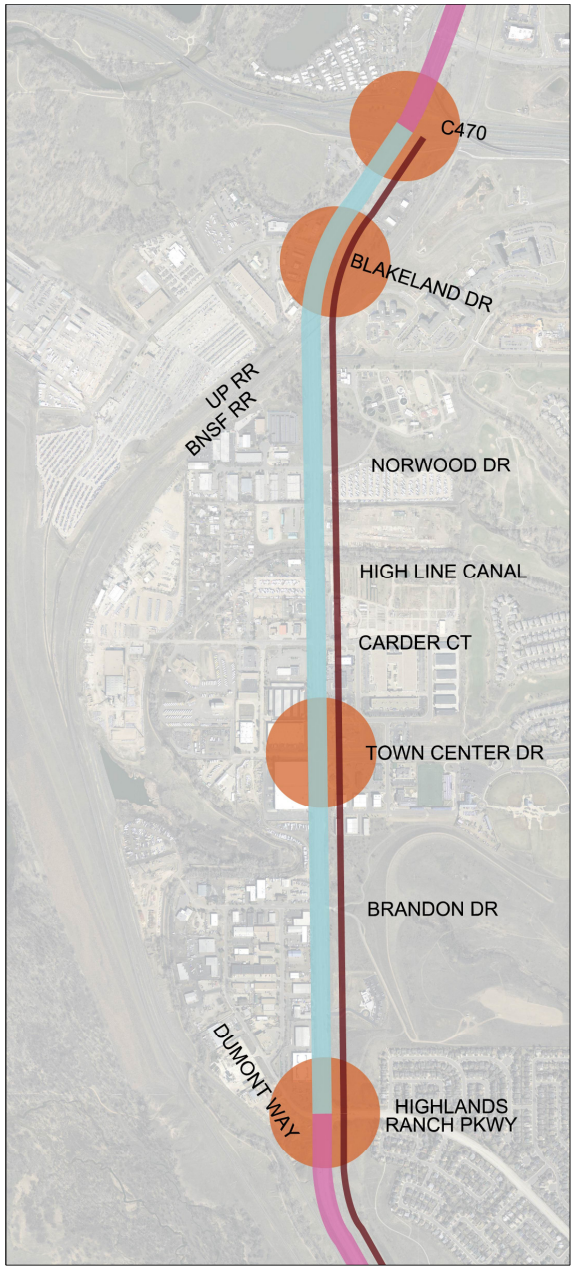
- Alternative A1—Expressway
- Alternative A2—Modified Expressway with Access Options North of Town Center Drive
- Alternative A3—Split Pair
- Alternative A4—By-Pass

Alternative A1—Expressway

- Widen US 85 to 8 through lanes from Highlands Ranch Parkway to C-470 (4 lanes in each direction)
- Convert existing signalized intersections to grade separated interchanges
- Convert all other access to right in/right out if possible
- Add a northbound to westbound directional flyover ramp at the C-470 interchange
- Widen US 85 to 6 through lanes from the eastbound C-470 ramp terminal to the study limits north of County Line Road (includes US 85 bridge over C-470)
- Minimal space for transit or managed lane



Typical Section Based on CDOT Standards



8 Lanes

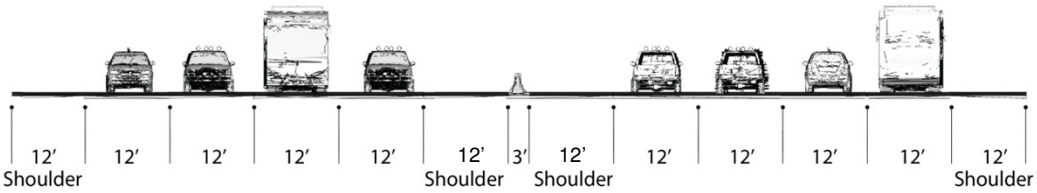
6 Lanes

Interchange

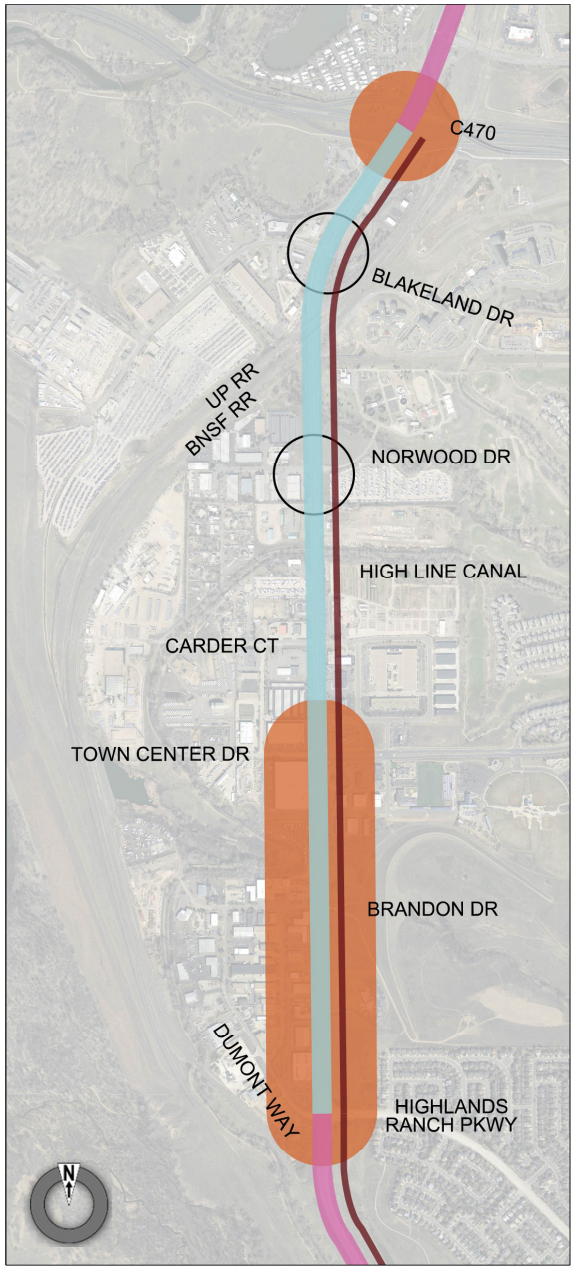
Multiuse Path

Alternative A2—Modified Expressway with Access Options North of Town Center Drive

- Widen US 85 to 8 through lanes from Highlands Ranch Parkway to C-470 (4 lanes in each direction)
- Convert existing signalized intersections at Highlands Ranch Parkway and Town Center Drive to grade separated interchanges connected by frontage roads (split diamond)
- Develop and analyze access options for cross-streets north of Town Center Drive (possible options listed on next page)
- Add a northbound to westbound directional flyover ramp at the C-470 interchange
- Widen US 85 to 6 through lanes from the eastbound C-470 ramp terminal to the study limits north of County Line Road (includes US 85 bridge over C-470)
- Minimal space for transit or managed lane



Typical Section Based on CDOT Standards



8 Lanes

6 Lanes

Interchange

Multiuse Path

Intersections with Design Options

Access Options North of Town Center Drive

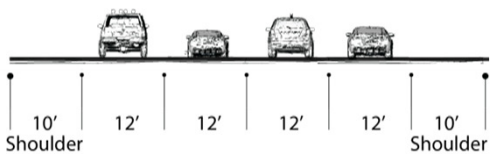
The highway alternative being carried forward is a limited access Expressway in order to meet the high travel demand beyond 2040. Further study in Level 3 will investigate several alternative access configurations that allow the roadway to serve the demand:

- Full-movement, signalized intersections
- Restricting current access to ¾-Movement or Right-in/Right-out
- Eliminate access to all cross-streets between Town Center Drive and C-470
- Provide accessibility to cross-streets via frontage roads
- Enhanced connectivity on the local transportation network

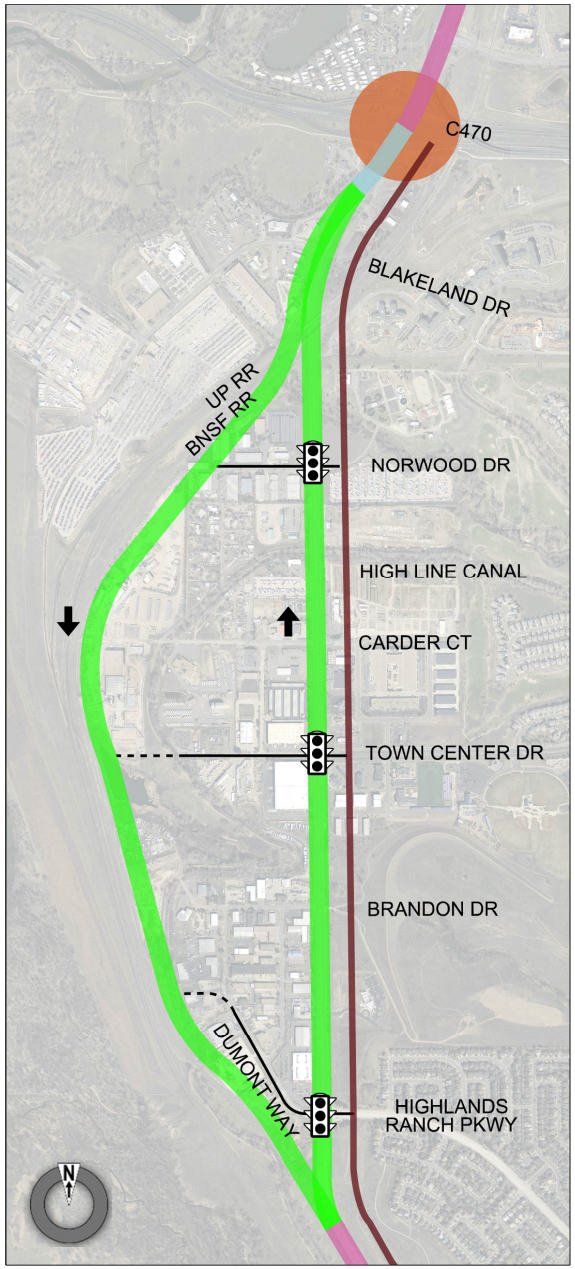
Alternative A3—Split Pair

- Convert existing US 85 to a one-way northbound roadway with 4 through lanes
- Construct a four lane one-way southbound roadway along the east side of the railroad corridor
- Extend local roads to connect the one-way pair
- Maintain existing access along the US 85 corridor
- Add a traffic signal at Norwood Drive and possibly at both Brandon Drive and Carder Court
- Add a northbound to westbound directional flyover ramp at the C-470 interchange
- Widen US 85 to 6 through lanes from the eastbound C-470 ramp terminal to the study limits north of County Line Road (includes US 85 bridge over C-470)
- New footprint potentially accommodates new space for transit or managed lanes

Split Roadway



Typical Section (NB US 85)
Based on CDOT Standards



8 Lanes
6 Lanes
4 Lanes
Interchange
Multiuse Path

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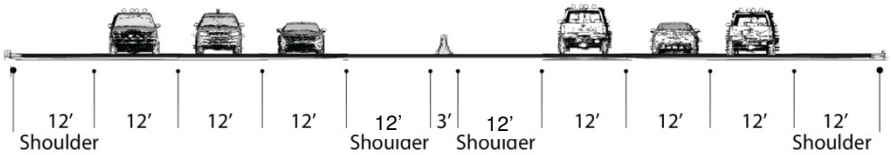
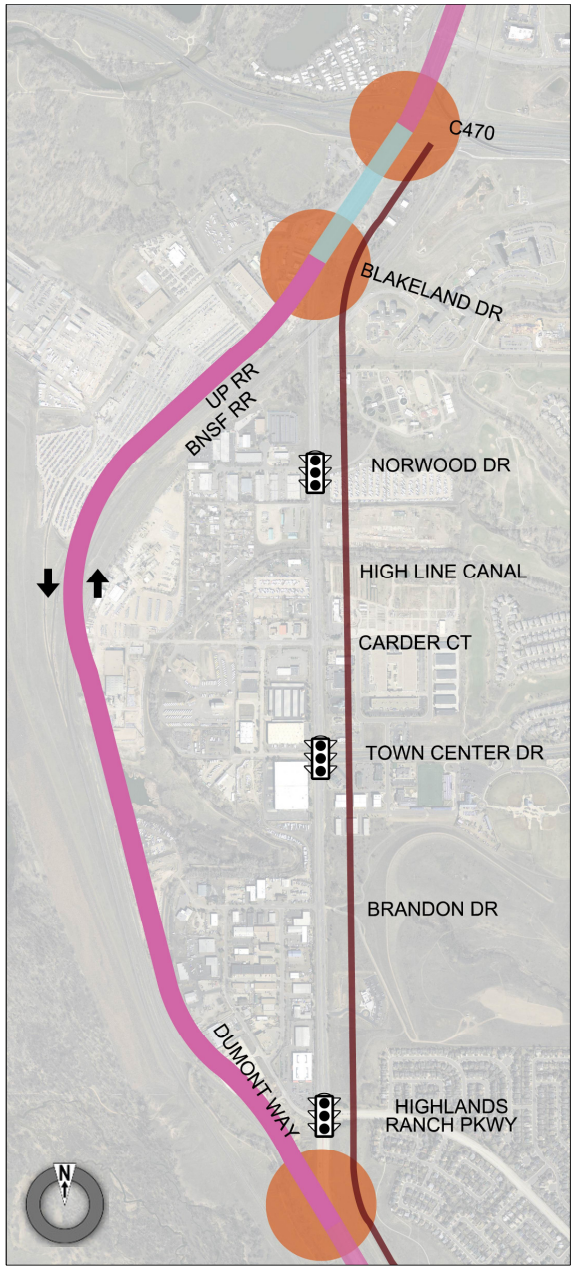
Alternative A4—By-Pass

- Construct a 6 lane controlled access roadway primarily along the west side of the railroad corridor
- Provide directional grade separated ramps at both the north and south ends of the By-Pass to connect to existing US 85
- Convert existing US 85 to a local north/south arterial street that promotes access
- Widen US 85 to 8 through lanes between Blakeland Drive and C-470
- Add a traffic signal at Norwood Drive
- Add a northbound to westbound directional flyover ramp at the C-470 interchange
- Widen US 85 to 6 through lanes from the eastbound C-470 ramp terminal to the study limits north of County Line Road (includes US 85 bridge over C-470)
- New footprint potentially accommodates new space for transit or managed lanes



By-Pass Typical Section
Based on CDOT Standards



8 Lanes

6 Lanes

Interchange

Multiuse Path

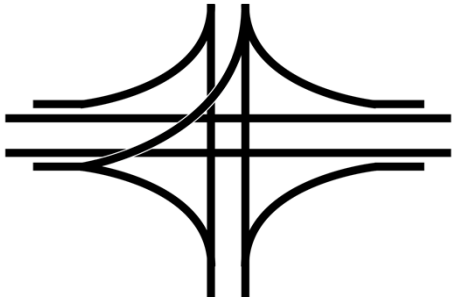
Segment B Alternatives

(Titan Rd to Highlands Ranch Pkwy)

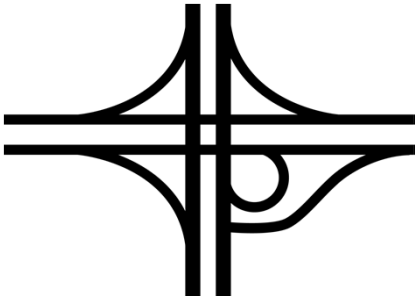
- **Alternative B1—Improved US 85 with ¾ movements**
- **Alternative B2—Improved US 85 with right in/right out**

Alternative B1—Improved US 85 with ¾ Movements

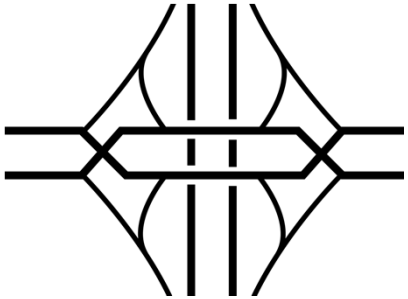
- Widen US 85 to 6 through lanes between Titan Road and Highlands Ranch Parkway (3 lanes in each direction)
- Modify all full movement access points to eliminate the left out movement
- Maintain the existing right in/right out access points
- Modify the existing Titan Road interchange to accommodate the high eastbound to northbound traffic volumes. Options include:



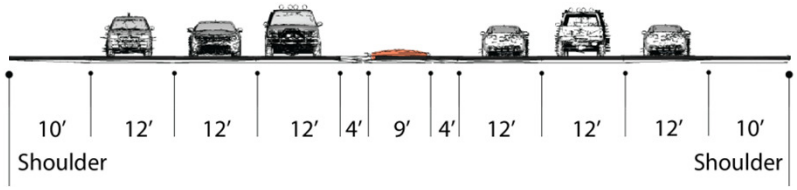
Directional Ramp



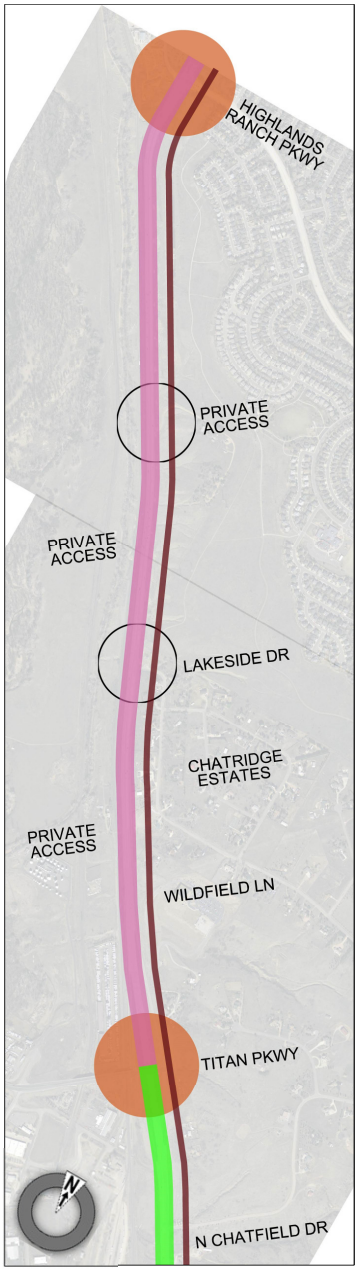
Partial Clover



Diverging Diamond



Typical Section Based on Constructed Design



6 Lanes

4 Lanes

Interchange

¾ Intersections

Multiuse Path

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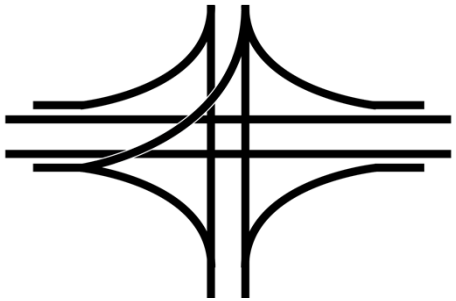
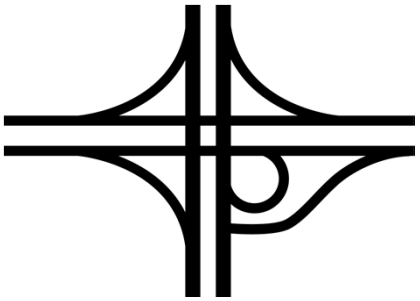
Alternative B2—Improved US 85 with Right in/Right out

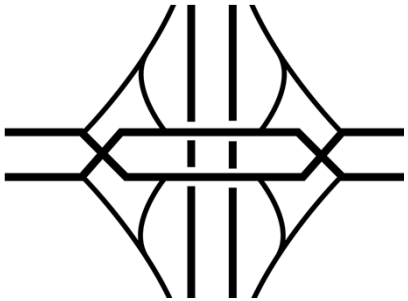
- Widen US 85 to 6 through lanes between Titan Road and Highlands Ranch Parkway (3 lanes in each direction)
- Convert all access points to right in/right out only
- Provide a frontage road between Titan Road and Lakeside Drive to serve the Chatridge Estates neighborhood
- Modify the existing Titan Road interchange to accommodate the high eastbound to northbound traffic volumes. Options include:



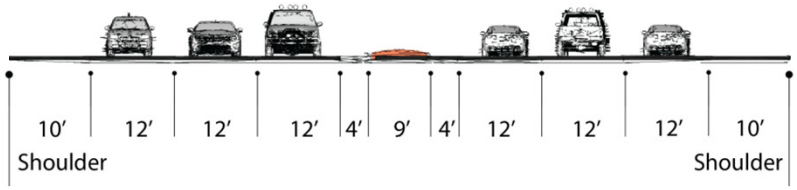
Directional Ramp



Partial Clover



Diverging Diamond



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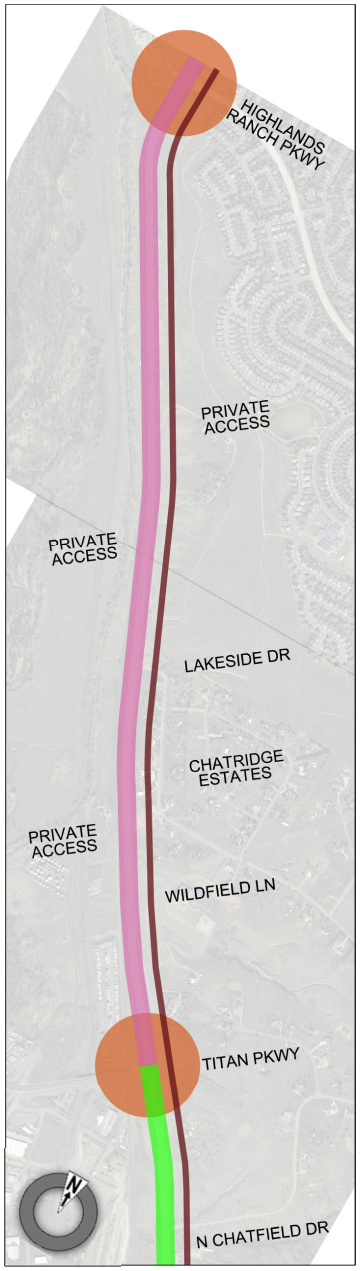


6 Lanes

4 Lanes

Interchange

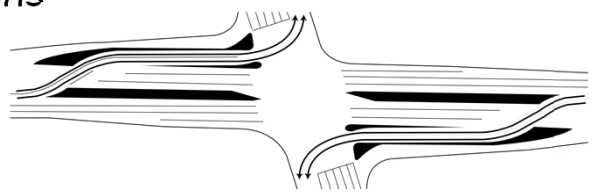
Multiuse Path

Segment C Alternative
(1/2 mile south of SH 67 to Titan Rd)

- **Alternative C1—4 Lane US 85 with Access Options at Airport Road, Delva Way, and SH 67**

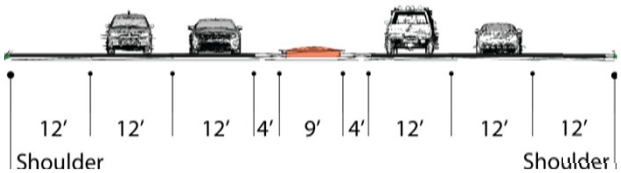
Alternative C1—4 Lane US 85 with Access Options

- Maintain 4 through lanes (2 lanes on US 85 in each direction)
- Develop and analyze intersection design options:
  - ✓ Maintain the existing signalized intersections at SH 67, Delva Way, and Airport Road and provide additional through lanes and turn lanes as needed at intersections to accommodate future volumes
  - ✓ Provide additional capacity with continuous flow intersections

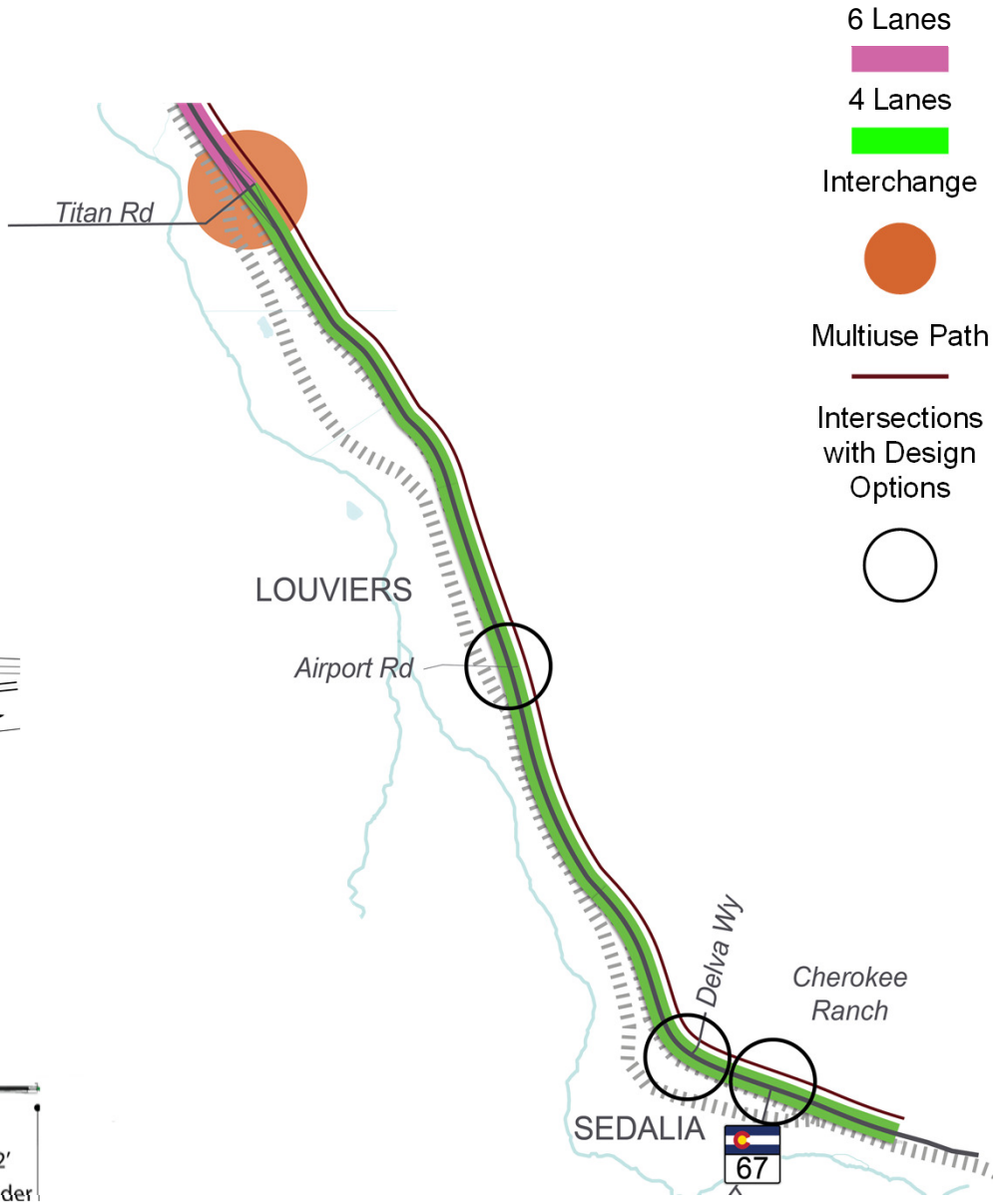


Continuous Flow Intersection

  - ✓ Provide Grade-Separated Interchange at Airport Road
- Maintain the other existing access points



Typical Section



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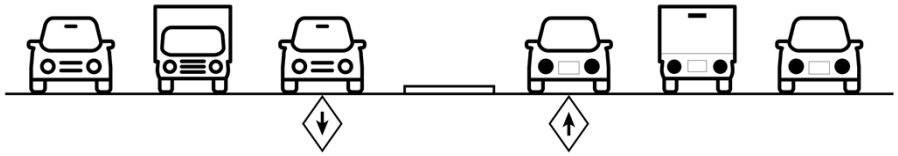
Other Considerations not Precluded by Alternatives

Congestion Management and Emerging Technology: Opportunities for either managed lanes or autonomous vehicles



Managed Lane

Autonomous Vehicle Lane

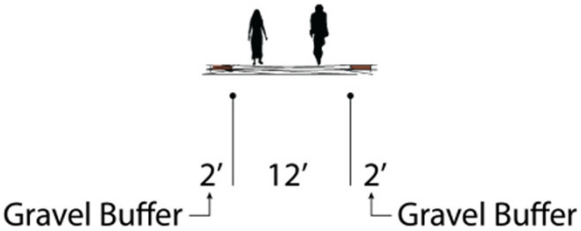
Transit: Opportunities for bus and rail options

Bus in Mixed Traffic

LRT

Commuter Rail

Pedestrian and Bicycle: Multi-use path along the east side of the corridor from SH 67 to C-470 and grade separated crossings at High Line Canal and C-470 (part of FEIS)



Wildlife Crossings: Protected grade separated crossings at select locations