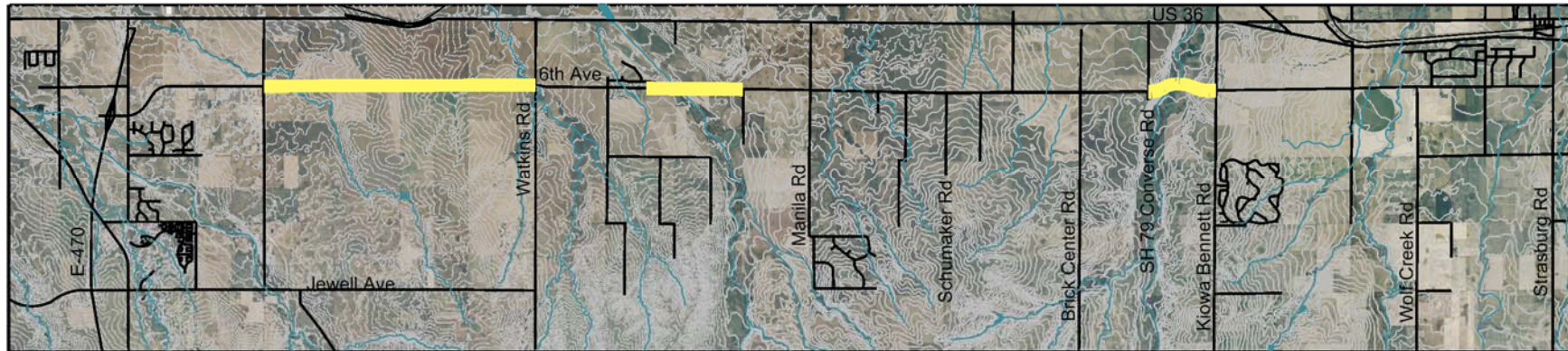


## 6th Avenue – Continuous alignment from E-470 interchange to Strasburg Road



6th Avenue is extended and existing segments are improved to provide a continuous four-lane arterial roadway from E-470 to Strasburg Road.

### Benefits

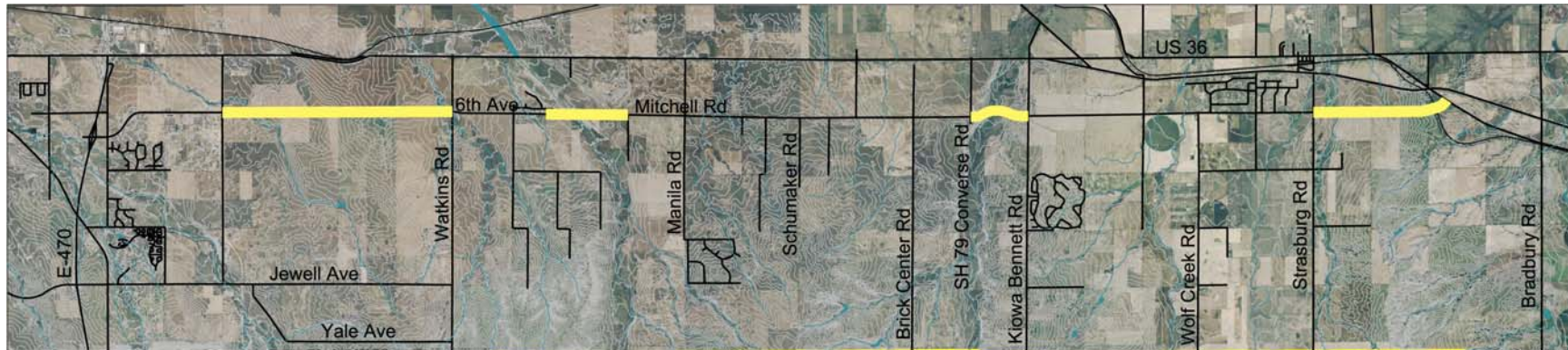
- ◆ Continuous arterial provides a supplemental east-west route and improved connectivity close to the I-70 development corridor.
- ◆ 2035 Traffic Forecasts:
  - High = 13,000 vehicles/day east of Watkins Road
  - Low = 2,000 vehicles/day east of Kiowa-Bennett Road
- ◆ Alternate route relieves traffic congestion expected at Watkins/I-70 interchange. Traffic forecasts on Watkins Road at I-70 reduced by almost 20%.
- ◆ New roadway pulls traffic volumes from Quincy Avenue (-50%), Strasburg/I-70 interchange (-10%), Colfax Avenue in Bennett (-20%), and I-70 east of Watkins Road (-5%).

### Constraints/Impacts

- ◆ Design speeds provided between 40 and 55 mph.
- ◆ There are five water crossings. Two of the crossings may require a bridge.
- ◆ Existing roadway segments will need to be improved/paved.
- ◆ Between SH 79 and Kiowa Bennett Road, the roadway conceptual alignment curves to avoid the existing lake.
- ◆ Alignment west of Kiowa-Bennett Road may impact Kiowa Creek North Open Space.
- ◆ New roadway adds traffic to Kiowa-Bennett Road (+20%).

**Cost:** \$35-40 Million

## 6th Avenue – Continuous alignment from E-470 interchange to US 36



6th Avenue is extended and existing segments are improved to provide a continuous four-lane arterial roadway from E-470 to US 36 southeast of Strasburg.

### Benefits

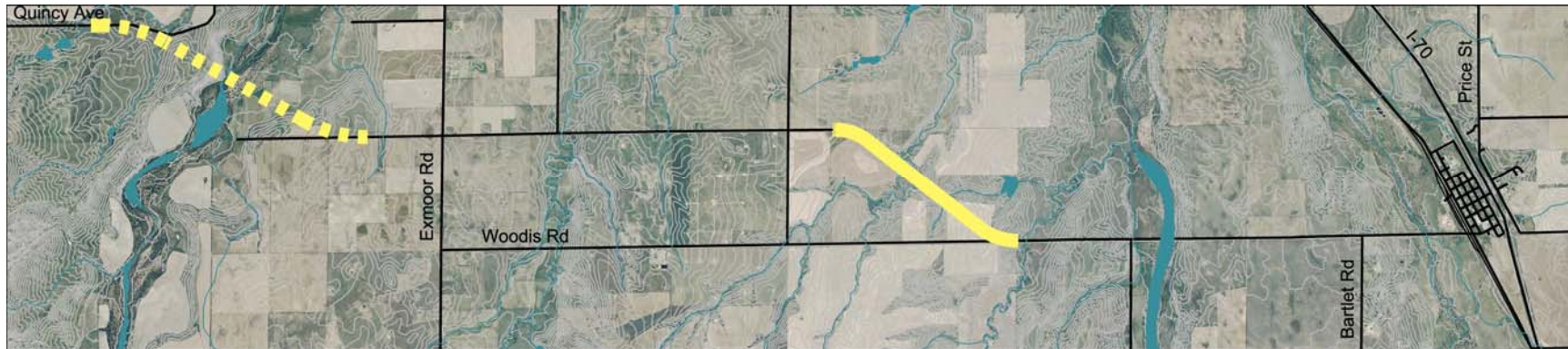
- ◆ Continuous arterial provides a supplemental east-west route and improved connectivity close to the I-70 corridor.
- ◆ Connection to US 36 provides additional ease of access for travelers to/from Byers.
- ◆ 2035 traffic forecasts and area changes are similar with the alignment ending at Strasburg Road
  - 500 vehicles/day forecasted between Strasburg Road and US 36.

### Constraints/Impacts

- ◆ Design speeds provided between 40 and 55 mph.
- ◆ There are seven water crossings. Two of the crossings may require a bridge.
- ◆ Existing roadway segments will need to be improved/paved.
- ◆ Between SH 79 and Kiowa Bennett Road, the roadway conceptual alignment curves to avoid the existing lake.
- ◆ Alignment west of Kiowa-Bennett Road may impact Kiowa Creek North Open Space.
- ◆ A costly railroad grade separation will be required for the extension east of Strasburg Road.

**Cost:** \$60-70 Million

## Quincy Avenue – Continuous alignment to Deer Trail/I-70 interchange (using Woodis Road)



Quincy Avenue is extended from Exmoor Road to Woodis Road and existing segments (of Quincy and Woodis) are improved to provide a continuous two-lane arterial roadway from Watkins Road to Deer Trail.

- ◆ The Quincy Avenue bridge connection over Bijou Creek to Exmoor Road is part of the current Arapahoe County Capital Improvement Program and is assumed to be completed for this evaluation.

### Benefits

- ◆ Continuous arterial provides a supplemental east-west route and improved connectivity in the middle of the County.
- ◆ 2035 Traffic Forecasts:
  - 6,000 - 7,000 vehicles/day between Watkins Road and Deer Trail (increased from 1,000 – 2,000 vehicles/day base forecasts without extension)
- ◆ New roadway connection pulls traffic volumes from I-70 interchanges at Byers (-10%) and Bennett (-5%) and Kiowa-Bennett Road north of Quincy (-30%)
  - Reduces out-of-direction travel

### Constraints/Impacts

- ◆ Design speeds provided between 50 and 55 mph
- ◆ There are three water crossings. Two of the crossings may require a bridge.
- ◆ New connection adds traffic to Quincy Avenue west of Watkins Road (+5%).
- ◆ Right-of-way currently being acquired for Bijou Creek bridge for connection to Exmoor Road due east (without a curve). Alternate alignment may require more right-of-way.
- ◆ Environmental impacts to West Bijou Creek Conservation Easement (west of Exmoor) and Middle Bijou Creek Conservation Easement (along Woodis) would need to be mitigated.

**Cost:** \$10-15 Million

## Watkins Road – Extension from Quincy Avenue to County Line Road



Watkins Road is extended south of Quincy Avenue as a two-lane arterial and existing segment north of Quincy Avenue to I-70 is widened to six lanes to provide a continuous arterial roadway from I-70 to County Line Road.

### Benefits

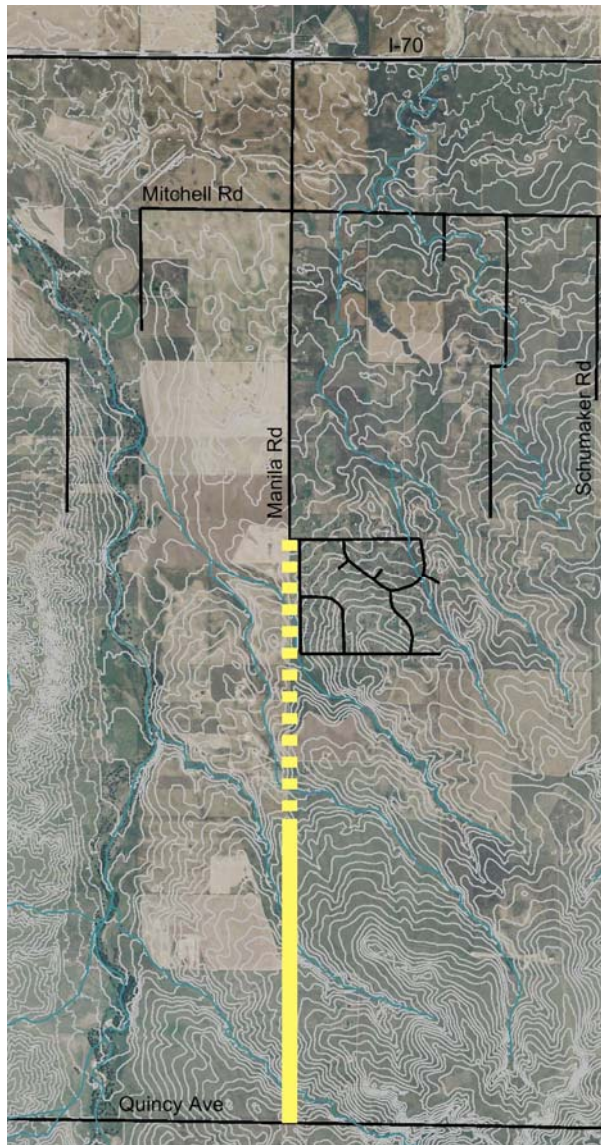
- ✦ Continuous arterial provides a supplemental north-south route and improved connectivity east of E-470.
  - New connection is located along Watkins Road development corridor north of Quincy Avenue (expected development from Lowry Range and TransPort).
- ✦ Alignment provides opportunity for multimodal connection with trail access.
- ✦ 2035 Traffic Forecasts:
  - Approximately 14,000 vehicles/day along new alignment between Quincy Avenue and County Line Road
- ✦ New roadway connection pulls traffic volumes from E-470 between Belleview and Quincy (-5%) and Gun Club Road (-15%).
  - Reduces out-of-direction travel

### Constraints/Impacts

- ✦ Design speeds provided 55 mph
- ✦ There are four water crossings. Three of the crossings may require a bridge.
- ✦ Environmental impacts to the Lowry Range conservation area and proposed water storage sites would need to be mitigated.
- ✦ Alignment follows the contours to attempt to minimize cut/fill for the roadway.
- ✦ New connection adds traffic to Watkins Road north of Quincy Avenue to I-70 (+20%), which is expected to experience congestion with surrounding development with base forecasts.
- ✦ New alignment would connect to Elbert County Road 17 to provide maximum connectivity, which may have impacts on residents along that roadway.

**Cost:** \$15-20 Million

## Manila Road – Continuous alignment from I-70 interchange to Quincy Avenue



Manila Road is extended to Quincy Avenue as a three-lane arterial and existing segments to I-70 are improved to provide a continuous arterial roadway from I-70 to Quincy Avenue.

### Benefits

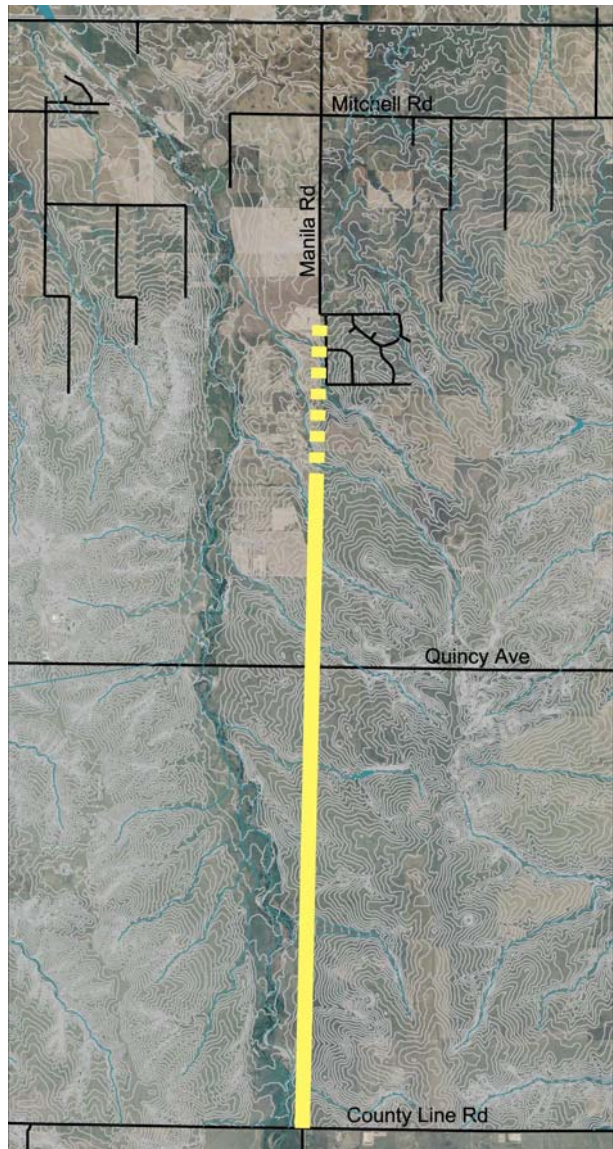
- ◆ Continuous arterial provides a supplemental north-south route and improved connectivity north of Quincy Avenue
- ◆ 2035 Traffic Forecasts:
  - Approximately 10,000 vehicles/day along new alignment between I-70 and Quincy Avenue.
- ◆ New roadway connection pulls traffic volumes from E-470 between Belleview and Quincy (-5%), Watkins Road (-5%), and Kiowa-Bennett Road (-60%).
  - Provides effective supplemental route

### Constraints/Impacts

- ◆ Design speeds provided 55 mph
- ◆ There are two water crossings. Both crossings may require a bridge.
- ◆ Existing roadway south of 6th Avenue/Mitchell Road will need to be improved/paved, which may negatively impact residents along existing alignment.

**Cost:** \$7-10 Million

## Manila Road – Continuous alignment from I-70 interchange to County Line Road



Manila Road is improved between I-70 and Quincy Avenue as a three-lane arterial and extended to County Line Road as a two-lane arterial to provide a continuous arterial roadway from I-70 to County Line Road.

### Benefits

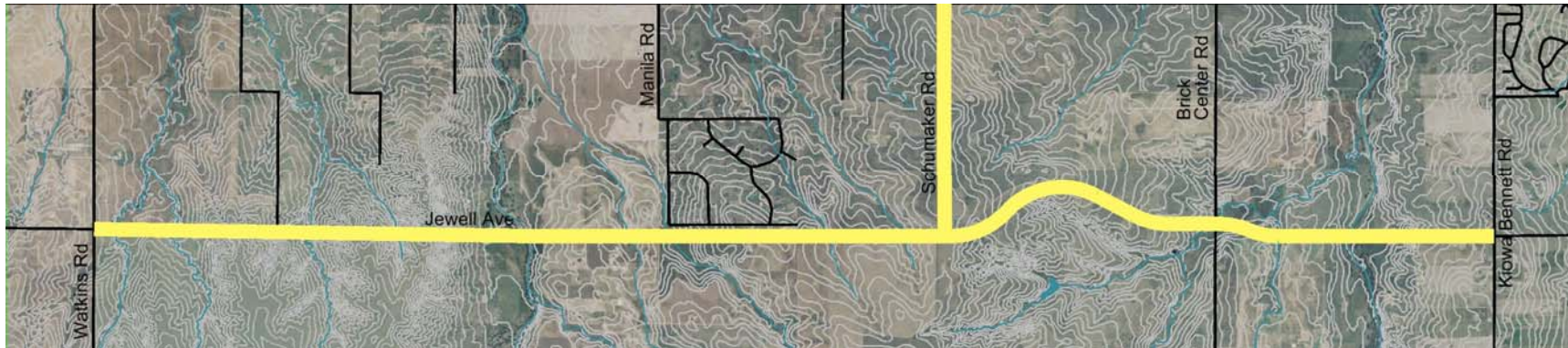
- ◆ Continuous arterial provides a supplemental north-south route and improved connectivity through the County east of E-470.
- ◆ Alignment provides opportunity for multimodal connection with trail access.
- ◆ 2035 Traffic Forecasts:
  - Approximately 21,000 vehicles/day along segment between I-70 and Quincy Avenue
  - Approximately 14,000 vehicles/day along new alignment between Quincy Avenue and County Line Road
- ◆ New connection pulls traffic volumes from E-470 (-5%), Gun Club Road (-15%), Watkins Road (-5%), and Kiowa-Bennett Road (-60%).
  - Provides effective supplemental route and reduces out-of-direction travel

### Constraints/Impacts

- ◆ Design speeds provided 55 mph
- ◆ There are six water crossings. Three crossings may require a bridge.
- ◆ Existing roadway south of 6th Avenue/Mitchell Road will need to be improved/paved, which may negatively impact residents along existing alignment.
- ◆ Roadway parallels the creek, which may require added water quality mitigation.
- ◆ New alignment would connect to Elbert County Road 29 to provide maximum connectivity, which may have impacts on residents along that roadway.

**Cost:** \$20-25 Million

## Jewell Avenue – Extension from Watkins Road to Kiowa-Bennett Road



Jewell Avenue is extended east of Watkins Road as a two-lane collector to Kiowa-Bennett Road with an extension of Schumaker Road to provide a new east-west route with an I-70 connection.

- ✦ The Schumaker/I-70 interchange is part of the current DRCOG Regional Transportation Plan and is assumed to be completed for this evaluation.

### Benefits

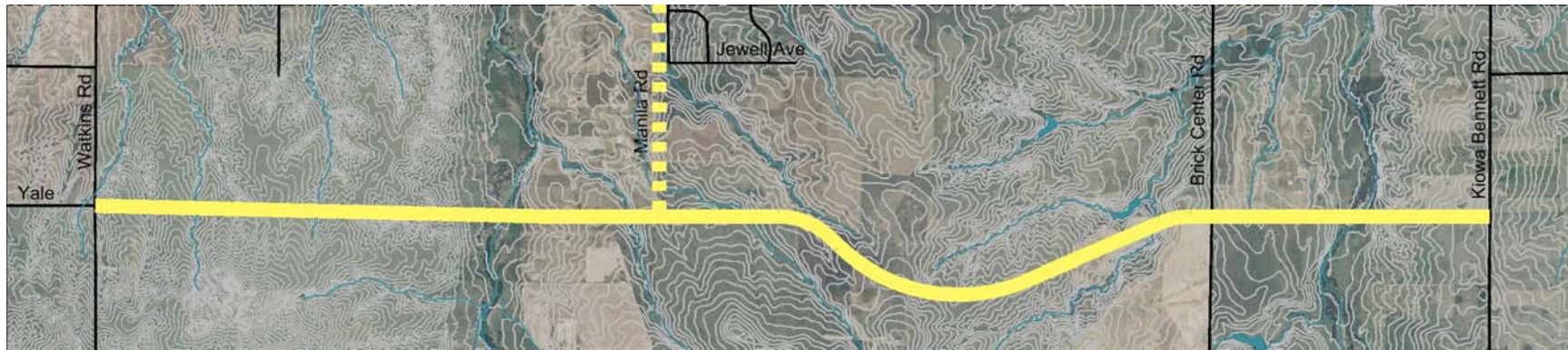
- ✦ Collector extension provides a supplemental east-west route north of Quincy Avenue.
  - New connection location would provide additional east-west connection for Lowry Range development area.
- ✦ 2035 Traffic Forecasts:
  - 2,000 vehicles/day between Watkins Road and Kiowa-Bennett Road
- ✦ New connection pulls minimal traffic from Watkins Road and Quincy Road (1,000-2,000 vehicles/day).

**Cost:** \$50-60 Million

### Constraints/Impacts

- ✦ Design speed provided 55 mph
- ✦ There are twelve water crossings and eight may need to be bridges due to steep grades.
- ✦ The extension may require additional cut/fill for roadway due to long, steep areas.
- ✦ Roadway between Schumaker Road and Brick-Center Road was curved to follow contours and avoid steep grades
- ✦ New roadway may impact established neighborhoods east of Manila Road and west of Brick-Center Road.

## Yale Avenue – Extension from Watkins Road to Kiowa-Bennett Road



Yale Avenue is extended east of Watkins Road as a two-lane collector to Kiowa-Bennett Road with an extension of Manila Road to provide a new east-west route with an I-70 connection.

### Benefits

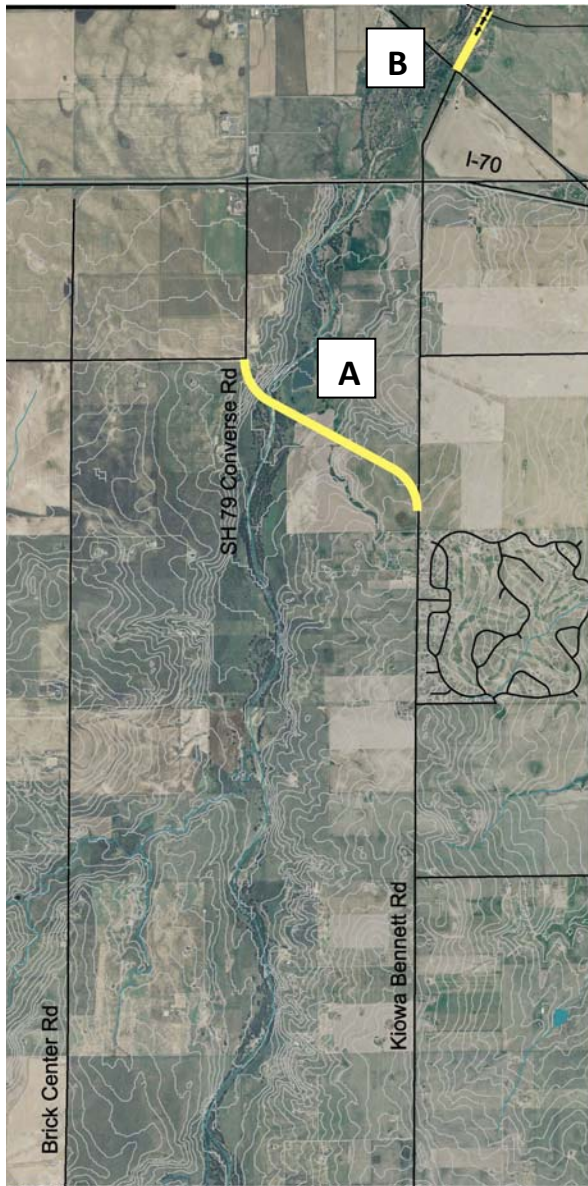
- ◆ Collector extension provides a supplemental east-west route north of Quincy Avenue.
  - New connection location would provide additional east-west connection for Lowry Range development area.
- ◆ 2035 Traffic Forecasts:
  - 2,000 – 3,000 vehicles/day between Watkins Road and Kiowa-Bennett Road
- ◆ New connection pulls minimal traffic from Watkins Road and Quincy Road (1,000-2,000 vehicles/day).

### Constraints/Impacts

- ◆ Design speed provided 55 mph
- ◆ There are seven water crossings and six may require bridges due to steep grades or wide creek crossings.
- ◆ Roadway between Watkins Road and Manila Road may require extensive cut/fills due to steep grades.
- ◆ Roadway between Manila Road and Brick Center Road was curved to follow the contours and mitigate residential impacts.
- ◆ Existing roadway south of 6th Avenue/Mitchell Road will need to be improved/paved, which may negatively impact residents along existing alignment.
- ◆ New roadway may impact established neighborhoods east of Manila Road and west of Brick-Center Road.

**Cost:** \$45-55 Million

## Kiowa-Bennett Road – Connection to SH 79



Kiowa-Bennett Road is realigned north of Quincy Avenue to connect with SH 79 either as a four-lane arterial at the SH 79/I-70 interchange (Option A) or east of Bennett (Option B) with interchange improvements at I-70.

### Benefits

- ◆ Arterial realignment provides an easier, more direct connection to I-70 and SH 79 for north-south travel.
- ◆ 2035 Traffic Forecasts:
  - Approximately 9,000 vehicles/day along realignment south of I-70 (Option A).
  - Minimal increases in traffic on Kiowa-Bennett Road expected with realignment north of I-70 (Option B).
  - Realignment Option A increases traffic volumes at SH 79 consistent with Town of Bennett planning.

### Constraints/Impacts

- ◆ Design speed provided 40 mph
- ◆ Option A:
  - One major water crossing requiring a bridge.
  - Steep grades may require extensive cut/fill.
  - Alignment may impact Kiowa Creek North Open Space.
- ◆ Option B:
  - Partial interchange at I-70 would require more improvements than at SH 79.
  - Construction of a grade separate crossing of the railroad from Kiowa Bennett Road may not be considered feasible due to the length of the structure and potential impacts to the Kiowa Creek.

**Cost:** \$5-6 Million