

Appendix H:
**COFFMAN STREET
COST ESTIMATE
ASSUMPTIONS**





City of Longmont Coffman Street Conceptual Public Infrastructure Opinion of Probable Cost Opinion

Coffman Avenue Improvements Cost Opinion Summary	
Section	
2nd Ave to 3rd Ave	\$780,000
3rd Ave to 4th Ave	\$1,070,000
4th Ave to 5th Ave	\$1,030,000
5th Ave to 6th Ave	\$1,030,000
6th Ave to Longs Peak Ave	\$630,000
Longs Peak Ave to 8th Ave	\$1,330,000
8th Ave to 9th Ave	\$410,000
Total Cost of Project:	\$6,280,000

Technical Memorandum

To: The City of Longmont
From: Heidi Otten, EIT and Troy Russ, AICP
Subject: Coffman Street Public Infrastructure Improvements
Date: December 11, 2017

The conceptual cost opinion for redevelopment of the public infrastructure along Coffman Street in the City of Longmont was developed using general assumptions and considering several categories of improvements. Cross-sections at various points along the street were developed by Fehr & Peers Transportation Consultants. These cross-sections were used to create the attached figures, depicting plan views of each block (2nd Avenue through 9th Avenue). Both the cross-section and plan view figures were used to determine areas and units for the cost opinion.

The categories of improvements considered in the cost opinion are: demolition; roadway replacement; storm sewer replacement; signage and pavement markings; concrete hardscape; and landscape. The following assumptions were used to develop the cost opinion:

- a. Demolition
 - a. The entire street, including all hardscape, landscape, and storm sewer infrastructure will be removed and replaced.
- b. Roadway
 - a. The roadway will be replaced with twelve (12) inches of road base and four (4) inches of Hot Mix asphalt.
- c. Storm Sewer
 - a. Replacement storm sewer piping will be 24-inch reinforced concrete pipe.
- d. Signage and Pavement Markings
 - a. Two roadway signs will be placed per block.
 - b. Two (2) directional arrows and bike symbols will be painted per block. The area of paint was determined by standard marking measurements.
 - c. Four (4) "Bus Only" markings will be painted per block. The area of paint was determined by standard marking measurements.
 - d. Striping includes solids lines, bike lane buffer lines, parking lane buffer lines, crosswalk lines, and stop bars.
 - e. The entire bus and bike lanes will be painted in color.
 - f. All paint values assume 1 gallon of paint is used per 100 feet of striping.
 - g. Signal intersections will only be replaced at existing signal intersection locations.
- e. Concrete Hardscape
 - a. The specific bike lane barrier to be used is unknown at the time of development of the cost opinion. To be conservative it was assumed a six (6) inch concrete barrier, with an area depicted in the attached figures, will be built.

- b. Sidewalks will be replaced with four (4) inch concrete.
- c. The entire sidewalk cross-section will be repaved; tree well areas were not subtracted in the calculation.
- d. Seven (7) bus stop platforms and shelters will be placed along Coffman Street. Locations are indicated in the attached figures.
- f. Landscape
 - a. Pedestrian lights will be placed along the entire block on both sides of the street with 30-foot spacing.
 - b. Trees will be placed 25 feet on center.
 - c. Trees will be placed within tree wells with tree grates.
- g. General
 - a. All cost values were rounded up to produce a conservative cost opinion.
 - b. The length of each block was measured on an aerial map. Total values for each category were calculated as:

$$(\text{No. Blocks}) * (\text{Length of Block}) * (\text{Cross-Section Width}) = \text{Total Area}$$

$$(\text{No. Blocks}) * (\text{Length of Block}) * (\text{Cross-Section Width}) * (\text{Depth of Feature}) = \text{Total Volume}$$

$$(\text{No. Blocks}) * (\text{Items per Block}) = \text{Items per Block}$$

At this conceptual level of design, it is not feasible to consider all possible categories of improvements and the exact costs. It is assumed that the 20% contingency will cover categories of improvements not listed and the difference between the opinioned unit cost and actual cost at the time of construction.

In all possible cases, values for unit costs were obtained from the Colorado Department of Transportation (CDOT) 2017 Cost Data Book. In cases where multiple values were listed for the same improvement, the most conservative average was used. Categories in which CDOT values were not available, unit costs were estimated from Kimley-Horn professional experience in Colorado. This includes knowledge of past projects and research on applicable available products in the Front Range.