

Mechanic Street Sidewalk - 2024 Cost Estimates

Description	Estimated Quantity	Unit	Unit Price	Total Cost (2015)	Total Cost (2024)*
Removal of Existing Concrete Sidewalk	100	SY	\$30	\$3,000	\$3,956
Excavation of Surfaces	280	SY	\$10	\$2,800	\$3,692
Bituminous Concrete Pavement	110	TON	\$115	\$12,650	\$16,679
Detectable Warning Surface	60	SF	\$45	\$2,700	\$3,560
Portland Cement Concrete Sidewalk	1330	SY	\$100	\$133,000	\$175,361
Vertical Granite Curb	1360	LF	\$35	\$47,600	\$62,761
Catch Basin	1	EA	\$3,500	\$3,500	\$4,615
18" HDPE Storm Drain	240	LF	\$60	\$14,400	\$18,986
Catch Basin Rehabilitation	4	EA	\$1,500	\$6,000	\$7,911
Painted Pavement Markings	1	LS	\$10,000	\$10,000	\$13,185
Crosswalk Signs	4	EA	\$110	\$440	\$580
Sign Post (12 ft high)	4	EA	\$100	\$400	\$527
Remove and Reset Sign	4	EA	\$35	\$140	\$185
Relocate Mailbox (single support)	5	EA	\$125	\$625	\$824
FlaggerS	200	MHRS	\$30	\$6,000	\$7,911
Tree Protection	1	LS	\$9,000	\$9,000	\$11,867
Traffic Control	1	LS	\$10,000	\$10,000	\$13,185
Mobilization/Demobilization	1	LS	\$55,000	\$55,000	\$72,518

Subtotal Construction Cost \$418,301
Contingency Factor (25%) \$104,575
Total Construction Cost \$522,876

Project administration, engineering, and local MPM (25% subtotal construction cost) \$130,719
Construction inspection (15% of subtotal construction cost) \$78,431
ROW, legal (3% subtotal construction cost) \$15,686
Total Project Cost \$747,713

*Inflation factor 2015-2024: 1.3185

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Description	Segment 1 Cost Estimate	Segment 2 Cost Estimate	Segment 3 Cost Estimate
<i>Construction Cost (2015) without 25% Contingency</i>	\$100,000	\$180,000	\$36,000
<i>Construction Cost (2024) without 25% Contingency</i>	\$131,850	\$237,330	\$47,466
Construction Cost (2024) with 25% Contingency	\$164,813	\$296,663	\$59,333
Project administration, engineering, and local MPM (25%)	\$41,203	\$74,166	\$14,833
Construction inspection (15%)	\$24,722	\$44,499	\$8,900
ROW, legal (3%)	\$4,944	\$8,900	\$1,780
Total Project Cost	\$235,682	\$424,227	\$84,845

Table 4-6:
Preliminary Construction Cost Estimate – Concrete Sidewalk

DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL COST
Removal of Existing Concrete Sidewalk	100	SY	\$30	\$3,000
Excavation of Surfaces	280	SY	\$10	\$2,800
Bituminous Concrete Pavement	110	TON	\$115	\$12,650
Detectable Warning Surface	60	SF	\$45	\$2,700
Portland Cement Concrete Sidewalk	1,330	SY	\$100	\$133,000
Vertical Granite Curb	1,360	LF	\$35	\$47,600
Catch Basin	1	EA	\$3,500	\$3,500
18" HDPE Storm Drain	240	LF	\$60	\$14,400
Catch Basin Rehabilitation	4	EA	\$1,500	\$6,000
Painted Pavement Markings	1	LS	\$10,000	\$10,000
Crosswalk Signs	4	EA	\$110	\$440
Sign Post (12 ft high)	4	EA	\$100	\$400
Remove and Reset Sign	4	EA	\$35	\$140
Relocate Mailbox (single support)	5	EA	\$125	\$625
Flaggers	200	MHRS	\$30	\$6,000
Tree Protection	1	LS	\$9,000	\$9,000
Traffic Control	1	LS	\$10,000	\$10,000
Mobilization/Demobilization	1	LS	\$55,000	\$55,000
Subtotal Construction Cost				\$317,000
Contingency (25%)				\$78,000
Total Construction Cost 2015				\$395,000

Notes:

1. Construction costs are preliminary and are not based on detailed plans and specifications. Actual cost may vary substantially from these estimates. Contingencies are based on approximately 25% of the construction cost at the preliminary planning stage.
2. The Engineering News Record Construction Cost Index was 9962 when the cost estimate was completed in March 2015.
3. Painted pavement markings include full length 4-inch white line on both sides of road, 4-inch yellow center line, two stop bars for Mechanic Street/North Street intersection and three crosswalks.
4. Restoration of growth and protection of historic features are included in the Mobilization/Demobilization item.

Table 4-8:
Total Project Cost

DESCRIPTION	TOTAL COST CONCRETE SIDEWALK	TOTAL COST ASPHALT SIDEWALK
Construction Cost (2015) with 25% Contingency	\$395,000	\$275,000
Engineering:		
Design Phase Engineering	\$58,000	\$58,000
Construction Phase Engineering	\$58,000	\$58,000
Local Project Management	\$38,000	\$38,000
Legal, Administrative and Fiscal	\$11,000	\$11,000
Total Project Cost	\$560,000	\$440,000

Notes:

1. Construction costs are shown in Table 4-6. The construction cost includes 25% contingency.
2. Engineering costs are estimated at 15-21% of the construction cost.
3. Local Project Management costs are estimated at 10-14% of the construction cost.
4. Legal, administrative and fiscal costs are estimated at about 3-4% of the construction cost.

Phasing Alternatives

At the Public Informational Meeting, there were discussions with the Village Trustees regarding phasing the pedestrian improvements. The construction of the project can easily be separated following the same segments developed for the alternatives evaluation. The segments are summarized as follows:

- Segment 1: Northern and Southern sides of Mechanic Street from Prospect Street to North Street, including the crosswalk at the intersection with Prospect Street.
- Segment 2: Southern side of Mechanic Street from North Street to Frederick Street.
- Segment 3: Southern side of Mechanic Street from Frederick Street to the cemetery, including the crosswalks at Frederick Street and at the cemetery.

The construction cost estimates and total project costs are presented for each segment of the project in Tables 4-9 and 4-10. If the project is separated into phases, the engineering, local project management and legal, administrative and fiscal costs will tend to be a higher percentage of the construction cost as many tasks will need to be repeated for each phase. For example, the environmental documentation would need to be prepared and submitted for each phase separately. Additionally, lower cost construction projects, such as Segment 3, will have even higher percentages as there are tasks in the VTrans design and construction process that are not based on the size of the project. Larger projects can absorb the cost of these tasks better than smaller projects can, therefore the percentage of engineering and local project management is increased on smaller projects.

Table 4-9:
Total Project Cost by Segment – Concrete Sidewalk

DESCRIPTION	SEGMENT 1 COST ESTIMATE	SEGMENT 2 COST ESTIMATE	SEGMENT 3 COST ESTIMATE
Construction Cost (2015) with 25% Contingency	\$125,000	\$225,000	\$45,000
Engineering:			
Design Phase Engineering	\$22,500	\$40,000	\$10,000
Construction Phase Engineering	\$22,500	\$40,000	\$10,000
Local Project Management	\$15,000	\$27,000	\$7,000
Legal, Administrative and Fiscal	\$5,000	\$8,000	\$3,000
Total Project Cost	\$190,000	\$340,000	\$75,000

Notes:

1. Construction costs are shown in Table 4-6. The construction cost includes 25% contingency.
2. Engineering costs are estimated at 18-22% of the construction cost. Segments with lower construction costs will have engineering costs at a higher percentage of the construction cost.
3. Local Project Management costs are estimated at 12-16% of the construction cost. Segments with lower construction costs will have local project management costs at a higher percentage of the construction cost.
4. Legal, administrative and fiscal costs are estimated at about 4-6% of the construction cost. Segments with lower construction costs will have legal, administrative and fiscal costs at a higher percentage of the construction cost.

Table 4-10:
Total Project Cost by Segment – Asphalt Sidewalk

DESCRIPTION	SEGMENT 1 COST ESTIMATE	SEGMENT 2 COST ESTIMATE	SEGMENT 3 COST ESTIMATE
Construction Cost (2015) with 25% Contingency	\$85,000	\$170,000	\$20,000
Engineering:			
Design Phase Engineering	\$22,500	\$40,000	\$10,000
Construction Phase Engineering	\$22,500	\$40,000	\$10,000
Local Project Management	\$15,000	\$27,000	\$7,000
Legal, Administrative and Fiscal	\$5,000	\$8,000	\$3,000
Total Project Cost	\$150,000	\$285,000	\$50,000

Notes:

1. Construction costs are shown in Table 4-6. The construction cost includes 25% contingency.
2. Engineering costs were developed in Table 4-8.
3. Local Project Management costs were developed in Table 4-8.
4. Legal, administrative and fiscal costs were developed in Table 4-8.