

**Three Year Average Engineering Factors
Engineering Costs per Total Construction Costs**

**7/1/2018 - 6/30/2021
by District**

Northwest

Work Types	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
2- ADA-TRANS	30.61%	15.10%	4.08%	49.80%	2.69%	3
B- BRIDGE REPLACEMENT	18.84%	8.02%	0.55%	27.42%	0.74%	22
G- PREV MAINT-BRIDGE	7.34%	8.90%	0.00%	16.25%	0.00%	8
H- HIGH TYPE RESURFACING	1.27%	3.71%	0.06%	5.04%	0.04%	2
I- INTERCHANGE	0.80%	11.92%	0.14%	12.86%	0.00%	1
J- PREV MAINT-PAVEMENT	1.62%	4.66%	0.05%	6.34%	0.01%	26
K- MED TYPE RESURFACING	1.16%	4.58%	0.00%	5.74%	0.00%	17
L- LOW TYPE RESURFACING	0.68%	4.28%	0.00%	4.96%	0.00%	25
O- OTHER	6.77%	14.01%	0.13%	20.91%	0.27%	5
R- BRIDGE REHABILITATION	8.31%	8.07%	-1.35%	15.02%	1.92%	17
X- SAFETY	6.17%	9.64%	0.28%	16.08%	0.12%	3
Y- ROUTINE MAINTENANCE	1.41%	16.77%	0.00%	18.17%	0.00%	2
	4.66%	5.74%	0.03%	10.44%	0.27%	131

Work Type Categories	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
MAJOR PROJECT	0.80%	11.92%	0.14%	12.86%	0.00%	1
TCOS	4.76%	5.59%	0.03%	10.38%	0.28%	130
	4.66%	5.74%	0.03%	10.44%	0.27%	131

Engineering costs are represented as percentages of corresponding actual construction costs. Based on projects completed within the indicated time frame. Excludes payment projects, right of way only projects and other projects without actual construction costs.

Use the following Preliminary Engineering percentages for Bridge: 11.14% for Bridge Replacement and 5.4% for Bridge Rehabilitation. For more information, please see the attached document from Bridge Division.

**Three Year Average Engineering Factors
Engineering Costs per Total Construction Costs**

**7/1/2018 - 6/30/2021
by District**

Northeast						
Work Types	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
1- ITS	11.43%	32.38%	0.00%	43.81%	0.00%	1
2- ADA-TRANS	50.58%	23.17%	3.47%	77.22%	1.16%	1
B- BRIDGE REPLACEMENT	24.37%	14.40%	0.16%	38.93%	0.12%	28
G- PREV MAINT-BRIDGE	4.40%	18.06%	0.00%	22.46%	0.00%	7
H- HIGH TYPE RESURFACING	1.76%	7.15%	0.00%	8.92%	0.00%	2
I- INTERCHANGE	0.87%	6.95%	0.00%	7.82%	0.00%	1
J- PREV MAINT-PAVEMENT	2.55%	6.50%	0.00%	9.05%	0.00%	11
K- MED TYPE RESURFACING	2.42%	5.97%	0.04%	8.43%	0.03%	23
L- LOW TYPE RESURFACING	1.03%	5.71%	0.00%	6.74%	0.00%	6
O- OTHER	5.08%	12.28%	0.00%	17.35%	0.00%	2
R- BRIDGE REHABILITATION	10.59%	14.77%	0.00%	25.37%	0.00%	9
T- NEW OR IMPROVED 2 LANE	9.56%	13.05%	0.62%	23.24%	7.30%	1
X- SAFETY	2.45%	14.69%	0.00%	17.13%	0.00%	3
Y- ROUTINE MAINTENANCE	0.54%	26.46%	0.00%	27.00%	0.00%	2
	7.11%	8.71%	0.08%	15.90%	0.34%	97

Work Type Categories	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
MAJOR PROJECT	4.18%	9.28%	0.24%	13.69%	2.78%	2
TCOS	7.46%	8.64%	0.06%	16.17%	0.05%	95
	7.11%	8.71%	0.08%	15.90%	0.34%	97

Engineering costs are represented as percentages of corresponding actual construction costs. Based on projects completed within the indicated time frame. Excludes payment projects, right of way only projects and other projects without actual construction costs.

Use the following Preliminary Engineering percentages for Bridge: 11.14% for Bridge Replacement and 5.4% for Bridge Rehabilitation. For more information, please see the attached document from Bridge Division.

Three Year Average Engineering Factors Engineering Costs per Total Construction Costs

**7/1/2018 - 6/30/2021
by District**

Kansas City

Work Types	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
1- ITS	0.48%	5.78%	0.00%	6.27%	0.00%	1
2- ADA-TRANS	4.85%	9.57%	0.87%	15.29%	0.00%	1
A- ADD LANES	7.21%	8.51%	1.07%	16.79%	3.08%	4
B- BRIDGE REPLACEMENT	18.04%	10.61%	0.28%	28.94%	1.99%	13
G- PREV MAINT-BRIDGE	0.47%	10.83%	0.00%	11.29%	0.00%	2
I- INTERCHANGE	11.68%	8.64%	0.41%	20.74%	9.91%	3
J- PREV MAINT-PAVEMENT	1.49%	6.09%	0.00%	7.58%	0.00%	62
K- MED TYPE RESURFACING	1.25%	6.32%	0.00%	7.57%	0.00%	15
L- LOW TYPE RESURFACING	2.60%	4.58%	0.25%	7.43%	0.06%	11
M- MAJOR BRIDGE	0.09%	5.98%	0.00%	6.07%	0.00%	1
O- OTHER	10.07%	15.12%	0.24%	25.43%	0.03%	15
P- PAVEMENT REPLACEMENT	1.96%	8.20%	0.01%	10.17%	0.01%	7
R- BRIDGE REHABILITATION	6.27%	8.94%	0.00%	15.21%	0.00%	26
X- SAFETY	11.89%	10.34%	0.20%	22.43%	0.17%	12
Y- ROUTINE MAINTENANCE	1.33%	6.75%	0.10%	8.18%	0.02%	15
	5.85%	7.86%	0.20%	13.91%	1.40%	188

Work Type Categories	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
MAJOR PROJECT	9.00%	8.42%	0.68%	18.10%	6.29%	8
TCOS	5.08%	7.72%	0.09%	12.88%	0.20%	180
	5.85%	7.86%	0.20%	13.91%	1.40%	188

Engineering costs are represented as percentages of corresponding actual construction costs. Based on projects completed within the indicated time frame. Excludes payment projects, right of way only projects and other projects without actual construction costs.

Use the following Preliminary Engineering percentages for Bridge: 11.14% for Bridge Replacement and 5.4% for Bridge Rehabilitation. For more information, please see the attached document from Bridge Division.

**Three Year Average Engineering Factors
Engineering Costs per Total Construction Costs**

**7/1/2018 - 6/30/2021
by District**

Central						
Work Types	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
2- ADA-TRANS	24.94%	18.01%	3.00%	45.94%	0.28%	5
A- ADD LANES	7.06%	9.95%	3.63%	20.63%	7.89%	1
B- BRIDGE REPLACEMENT	19.38%	16.84%	0.00%	36.22%	0.00%	4
G- PREV MAINT-BRIDGE	4.00%	8.35%	0.00%	12.36%	0.00%	7
H- HIGH TYPE RESURFACING	2.90%	10.39%	0.00%	13.29%	0.00%	1
J- PREV MAINT-PAVEMENT	0.71%	6.93%	0.00%	7.64%	0.00%	13
K- MED TYPE RESURFACING	2.54%	7.38%	0.11%	10.02%	0.03%	61
L- LOW TYPE RESURFACING	1.48%	6.65%	0.00%	8.13%	0.00%	4
O- OTHER	3.50%	12.52%	1.11%	17.14%	2.82%	13
P- PAVEMENT REPLACEMENT	1.80%	5.91%	0.00%	7.71%	0.00%	2
R- BRIDGE REHABILITATION	16.54%	11.92%	0.34%	28.80%	0.40%	35
X- SAFETY	8.24%	13.88%	0.42%	22.53%	1.07%	5
Y- ROUTINE MAINTENANCE	1.60%	9.20%	0.00%	10.79%	0.00%	7
	5.08%	8.45%	0.20%	13.72%	0.20%	158

Work Type Categories	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
MAJOR PROJECT	7.06%	9.95%	3.63%	20.63%	7.89%	1
TCOS	5.06%	8.44%	0.17%	13.67%	0.14%	157
	5.08%	8.45%	0.20%	13.72%	0.20%	158

Engineering costs are represented as percentages of corresponding actual construction costs. Based on projects completed within the indicated time frame. Excludes payment projects, right of way only projects and other projects without actual construction costs.

Use the following Preliminary Engineering percentages for Bridge: 11.14% for Bridge Replacement and 5.4% for Bridge Rehabilitation. For more information, please see the attached document from Bridge Division.

**Three Year Average Engineering Factors
Engineering Costs per Total Construction Costs**

**7/1/2018 - 6/30/2021
by District**

St. Louis

Work Types	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
1- ITS	1.27%	16.72%	0.00%	18.00%	0.00%	6
A- ADD LANES	9.08%	7.58%	0.42%	17.07%	4.07%	3
B- BRIDGE REPLACEMENT	8.32%	10.89%	0.02%	19.23%	0.10%	4
E- ENHANCEMENTS	23.16%	8.30%	0.00%	31.46%	0.00%	1
G- PREV MAINT-BRIDGE	6.24%	12.22%	0.00%	18.46%	0.00%	19
H- HIGH TYPE RESURFACING	1.21%	7.80%	0.00%	9.02%	0.14%	5
I- INTERCHANGE	8.66%	5.29%	0.00%	13.95%	0.00%	1
J- PREV MAINT-PAVEMENT	3.54%	7.89%	0.010%	11.44%	0.07%	53
K- MED TYPE RESURFACING	4.11%	8.38%	0.04%	12.53%	0.13%	4
M- MAJOR BRIDGE	3.24%	4.35%	0.00%	7.59%	0.00%	2
O- OTHER	11.86%	8.17%	2.63%	22.67%	6.91%	19
P- PAVEMENT REPLACEMENT	16.43%	2.18%	0.00%	18.61%	0.00%	1
Q- CMAQ	11.07%	13.15%	0.42%	24.64%	0.374%	10
R- BRIDGE REHABILITATION	4.40%	10.19%	0.00%	14.59%	0.00%	7
X- SAFETY	5.73%	9.31%	0.08%	15.12%	2.01%	19
Y- ROUTINE MAINTENANCE	2.49%	6.16%	0.00%	8.65%	0.00%	15
	5.58%	8.41%	0.24%	14.22%	1.16%	169

Work Type Categories	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
MAJOR PROJECT	7.85%	6.37%	0.23%	14.44%	2.24%	6
TCOS	4.90%	8.91%	0.24%	14.05%	0.90%	162
OTHER	23.16%	8.30%	0.00%	31.46%	0.00%	1
	5.58%	8.41%	0.24%	14.22%	1.16%	169

Engineering costs are represented as percentages of corresponding actual construction costs. Based on projects completed within the indicated time frame. Excludes payment projects, right of way only projects and other projects without actual construction costs.

Use the following Preliminary Engineering percentages for Bridge: 11.14% for Bridge Replacement and 5.4% for Bridge Rehabilitation. For more information, please see the attached document from Bridge Division.

Three Year Average Engineering Factors Engineering Costs per Total Construction Costs

**7/1/2018 - 6/30/2021
by District**

Southwest

Work Types	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
1- ITS	16.65%	14.56%	0.00%	31.21%	0.00%	2
2- ADA-TRANS	18.18%	13.16%	1.97%	33.31%	0.97%	15
A- ADD LANES	8.76%	8.04%	0.85%	17.66%	2.07%	9
B- BRIDGE REPLACEMENT	17.89%	11.30%	0.36%	29.56%	0.57%	30
F- FREEWAY	2.52%	12.14%	0.00%	14.66%	0.00%	2
G- PREV MAINT-BRIDGE	1.29%	10.21%	0.00%	11.50%	0.00%	4
H- HIGH TYPE RESURFACING	0.48%	3.82%	0.00%	4.29%	0.00%	2
I- INTERCHANGE	10.19%	11.91%	0.29%	22.40%	5.67%	4
J- PREV MAINT-PAVEMENT	0.83%	5.29%	0.00%	6.12%	0.00%	12
K- MED TYPE RESURFACING	2.07%	5.13%	0.00%	7.20%	0.00%	72
L- LOW TYPE RESURFACING	2.38%	4.48%	0.00%	6.86%	0.00%	2
O- OTHER	12.16%	10.02%	1.00%	23.18%	38.61%	17
P- PAVEMENT REPLACEMENT	5.09%	4.48%	0.11%	9.68%	0.06%	4
R- BRIDGE REHABILITATION	6.57%	8.61%	0.02%	15.20%	0.06%	17
X- SAFETY	11.09%	9.49%	0.28%	20.86%	1.02%	17
Y- ROUTINE MAINTENANCE	0.69%	12.49%	0.00%	13.19%	0.00%	8
	6.83%	7.56%	0.25%	14.64%	2.13%	217

Work Type Categories	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
MAJOR PROJECT	8.78%	8.79%	0.74%	18.31%	2.57%	15
TCOS	6.58%	7.40%	0.19%	14.17%	2.08%	202
	6.83%	7.56%	0.25%	14.64%	2.13%	217

Engineering costs are represented as percentages of corresponding actual construction costs. Based on projects completed within the indicated time frame. Excludes payment projects, right of way only projects and other projects without actual construction costs.

Use the following Preliminary Engineering percentages for Bridge: 11.14% for Bridge Replacement and 5.4% for Bridge Rehabilitation. For more information, please see the attached document from Bridge Division.

**Three Year Average Engineering Factors
Engineering Costs per Total Construction Costs**

**7/1/2018 - 6/30/2021
by District**

Southeast

Work Types	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
2- ADA-TRANS	3.09%	15.10%	0.00%	18.19%	0.00%	4
B- BRIDGE REPLACEMENT	16.97%	12.55%	0.33%	29.85%	0.78%	67
H- HIGH TYPE RESURFACING	2.52%	6.15%	0.00%	8.67%	0.00%	2
I- INTERCHANGE	11.20%	9.71%	1.26%	22.17%	10.46%	1
J- PREV MAINT-PAVEMENT	0.48%	8.66%	0.00%	9.14%	0.00%	19
K- MED TYPE RESURFACING	2.48%	6.79%	0.22%	9.50%	0.39%	93
L- LOW TYPE RESURFACING	0.00%	3.42%	0.00%	3.42%	0.00%	1
M- MAJOR BRIDGE	2.89%	15.92%	0.00%	18.81%	0.00%	1
O- OTHER	5.37%	12.77%	0.60%	18.74%	2.28%	19
P- PAVEMENT REPLACEMENT	1.00%	5.16%	0.00%	6.16%	0.00%	1
R- BRIDGE REHABILITATION	14.43%	9.99%	0.00%	24.43%	0.00%	4
X- SAFETY	3.07%	12.47%	0.00%	15.54%	0.00%	2
Y- ROUTINE MAINTENANCE	0.40%	14.14%	0.00%	14.54%	0.00%	4
	6.57%	9.22%	0.31%	16.10%	1.28%	218

Work Type Categories	Preliminary Engineering	Construction Inspection	Right of Way Incidentals	Total Engineering	Right of Way Acquisition	n=
MAJOR PROJECT	10.67%	10.11%	1.18%	21.95%	9.80%	2
TCOS	6.24%	9.14%	0.24%	15.62%	0.58%	216
	6.57%	9.22%	0.31%	16.10%	1.28%	218

Engineering costs are represented as percentages of corresponding actual construction costs. Based on projects completed within the indicated time frame. Excludes payment projects, right of way only projects and other projects without actual construction costs.

Use the following Preliminary Engineering percentages for Bridge: 11.14% for Bridge Replacement and 5.4% for Bridge Rehabilitation. For more information, please see the attached document from Bridge Division.

Table with 25 columns: ID, State, County, City, Name, Address, Zip, Agency, Case No., Status, Date, Description, Amount, and Balance. Includes project details for Livington, Phelps, Holt, and Buchanan counties across various locations like Boone, Salsine, and various parts of the city.

12/8/2021

Bridge Attachment

CD	Gasconade	Gasconade	T	STUMPTL	WF Rehab	10/29/2020	11/17/2020	2/19/2021	338.35	\$630.28	\$668.63	1.79%
18231	Atchison	Atchison	29	ALDERU1	WF Rehab	5/11/2021	5/25/2021	8/20/2021	\$338.79	\$1,129.00	\$1,467.79	0.89%
75303	Vernon	Vernon	W	LEAF1	WF Rehab	6/21/2021	6/28/2021	10/15/2021	\$0.00	\$225.07	\$225.07	2.20%
153162	Holt	Holt	H	SMITHD3	WF Super Rpl	7/15/2019	7/17/2019	9/20/2019	\$291.36	\$12,255.30	\$12,546.66	6.10%
953224	Stoddard	Stoddard	Z	AROUNA	WF Super Rpl	9/12/2019	9/24/2019	12/13/2019	\$905.00	\$6,557.00	\$7,062.00	4.98%
953224	Stoddard	Stoddard	Z	AROUNA	WF Super Rpl	9/12/2019	9/24/2019	12/13/2019	\$168.00	\$4,359.00	\$4,527.00	3.50%
553282	Maries	Maries	N	SHANKCL	WF Super Rplmt	7/15/2020	7/27/2020	9/18/2020	\$1375.25	\$10,912.76	\$12,288.01	5.02%
553229	Cole	Cole	H	STUMPTL	WF Super Rplmt	8/13/2020	10/1/2020	12/18/2020	\$345.99	\$28,711.56	\$29,057.55	10.00%
78050	Bates	Bates	49	FRANKD	WF Super Rplmt	4/15/2020	5/2/2020	1/17/2020	\$0.00	\$13,205.75	\$13,205.75	2.42%
253047	Ralls	Ralls	A	SMITHD3	WFPG Redeck	10/11/2019	10/21/2019	1/17/2020	\$337.58	\$14,481.53	\$15,153.51	1.35%
393093	Cooper	Cooper	K	ALDERU1	WFPG Redeck	12/13/2020	12/13/2020	2/21/2020	\$1,324.00	\$16,236.00	\$17,560.00	2.98%
553251	Saline	Saline	41	STUMPTL	WFPG Redeck	12/11/2019	8/11/2020	11/20/2020	\$142.00	\$3,774.26	\$3,860.41	1.32%
933466	Texas	Henry	32	HARTNB1	WFPG Rehab	7/17/2019	7/3/2019	9/20/2019	\$389.22	\$389.22	\$389.22	0.51%
753228	Henry	Henry	K	HARTNB1	WFPG Rehab	7/17/2019	7/3/2019	9/20/2019	\$389.22	\$389.22	\$389.22	0.51%
93310	Ste. Genevieve	Ste. Genevieve	55	AROUNA	WFPG Rehab	10/25/2019	11/4/2019	12/13/2019	\$47.00	\$812.00	\$859.00	0.77%
93310	Ste. Genevieve	Ste. Genevieve	55	AROUNA	WFPG Rehab	10/25/2019	11/4/2019	12/13/2019	\$47.00	\$812.00	\$859.00	0.77%
78366	Bates	Bates	49	FRANKD	WFPG Rehab	10/25/2019	11/4/2019	1/17/2020	\$0.00	\$5,619.91	\$5,619.91	0.66%
78411	Vernon	Vernon	49	FRANKD	WFPG Rehab	11/5/2019	11/8/2019	1/17/2020	\$0.00	\$1,398.77	\$1,398.77	0.24%
553504	Callaway	Callaway	F	LEAF1	WFPG Rehab	5/7/2020	5/18/2020	9/18/2020	\$558.08	\$599.86	\$1,115.94	1.60%
53365	Callaway	Callaway	70	STUMPTL	WFPG Rehab	12/8/2020	3/11/2021	4/16/2021	\$1,139.40	\$13,735.80	\$14,875.20	4.11%
53366	Boone	Boone	70	ALDERU1	WFPG Rehab	12/14/2020	3/11/2021	4/16/2021	\$1,452.44	\$4,995.39	\$6,447.83	2.88%
53366	Boone	Boone	70	ALDERU1	WFPG Rehab	12/17/2020	3/11/2021	4/16/2021	\$2,178.67	\$7,493.09	\$9,671.76	2.63%
593337	Cole	Callaway/Cole	54	STUMPTL	WFPG/Truss Rehab	7/22/2020	10/29/2020	1/22/2021	\$1,143.30	\$1,812.90	\$2,956.20	0.35%
									Average PE cost in-House Bridge Rehabilitations			3.60%

