

# stlco\_fimr\_report

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## Contents

Fetal Mortality Rate, Saint Louis County 2019 to 2023 . . . . .	2
Table 1: Overall Fetal Mortality Rate, Saint Louis County, 2019 to 2023 . . . . .	3
Table 2: Annual Fetal Mortality Rate, Saint Louis County, 2019 to 2023 . . . . .	3
Figure 1: Annual Fetal Mortality Rate, Saint Louis County, 2019 to 2023 . . . . .	3
Table 3: Fetal Mortality Rate by Race, Saint Louis County, 2019 to 2023 . . . . .	4
Table 4: Fetal Mortality Rate by Race, Saint Louis County, 2019 to 2023 . . . . .	4
Figure 2: Annual Fetal Mortality Rate by Race, Saint Louis County, 2019 to 2023 . . . . .	5
Table 5: Fetal Mortality Rate by Sex, Saint Louis County, 2019 to 2023 . . . . .	6
Table 6: Annual Fetal Mortality Rate by Sex, Saint Louis County, 2019 to 2023 . . . . .	6
Figure 3: Annual Fetal Mortality Rate by Sex, Saint Louis County, 2019 to 2023 . . . . .	7
Table 7: Fetal Mortality Rate by Maternal Age Group, Saint Louis County, 2019 to 2023 . . . . .	8
Table 8: Annual Fetal Mortality Rate by Maternal Age Group, Saint Louis County, 2019 to 2023 . . . . .	8
Figure 4: Annual Fetal Mortality Rate by Maternal Age Group, Saint Louis County, 2019 to 2023 . . . . .	9
<b>Reference</b>	<b>9</b>

## Fetal Mortality Rate, Saint Louis County 2019 to 2023

$$\text{Fetal mortality rate} = \frac{\text{Fetal deaths at 20 weeks of gestation or more}}{\text{Live births and fetal deaths at 20 weeks or more}} \times 1,000$$

For Normal Distribution (deaths  $\geq 100$ ):

$$\begin{aligned}\text{Lower: } & R_1 - 1.96 * R_1 * \frac{\text{RSE}(R_1)}{100} \\ \text{Upper: } & R_1 + 1.96 * R_1 * \frac{\text{RSE}(R_1)}{100}\end{aligned}$$

$$\text{RSE of the fetal mortality rate: } \text{RSE} = 100 * \sqrt{\frac{1}{D} + \frac{1}{B}}$$

For Poisson Distribution (deaths  $< 100$ ):

$$\begin{aligned}\text{Lower: } & R_1 \cdot L(0.95, D_{\text{adj}}) \\ \text{Upper: } & R_1 \cdot U(0.95, D_{\text{adj}})\end{aligned}$$

$$D_{\text{adj}} = \frac{D \bullet B}{D + B}$$

Using the CDC Poisson L/U confidence-limit table for fetal and perinatal mortality rates. Using qchisq in R, same values as the CDC Poisson L/U confidence-limit table

$$\begin{aligned}L &= \frac{\text{qchisq}(0.025, 2n)}{2n} \\ U &= \frac{\text{qchisq}(0.975, 2(n+1))}{2n}\end{aligned}$$

**Table 1: Overall Fetal Mortality Rate, Saint Louis County, 2019 to 2023**

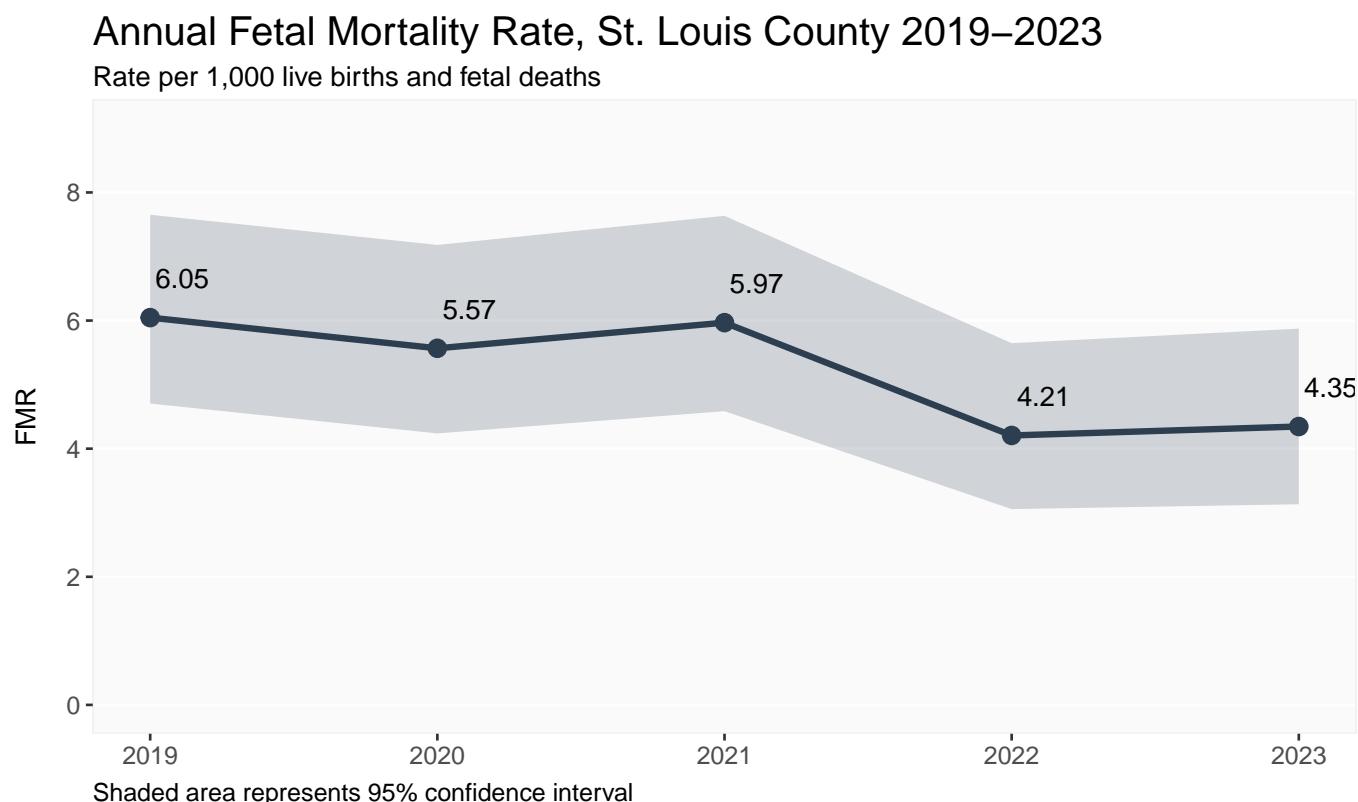
Table 1: Fetal Mortality Rate, Saint Louis County, 2019 to 2023

Fetal Deaths	Live Births	Total	Fetal Mortality Rate		95% CI		CI Method
			per 1000 live births and fetal deaths		Lower	Upper	
277	52,414	52,691		5.26	4.64	5.88	Normal

**Table 2: Annual Fetal Mortality Rate, Saint Louis County, 2019 to 2023**

Table 2: Annual Fetal Mortality Rate, Saint Louis County 2019 to 2023

Year	Fetal Deaths	Live Births	Total	Fetal Mortality Rate		95% CI		CI Method
				per 1000 live births and fetal deaths		Lower	Upper	
2019	69	11,343	11,412		6.05	4.70	7.65	Poisson
2020	59	10,539	10,598		5.57	4.24	7.18	Poisson
2021	63	10,494	10,557		5.97	4.59	7.64	Poisson
2022	44	10,416	10,460		4.21	3.06	5.65	Poisson
2023	42	9,622	9,664		4.35	3.13	5.87	Poisson

**Figure 1: Annual Fetal Mortality Rate, Saint Louis County, 2019 to 2023**

**Table 3: Fetal Mortality Rate by Race, Saint Louis County, 2019 to 2023**

Table 3: Fetal Mortality Rate by Race, Saint Louis County, 2019 to 2023

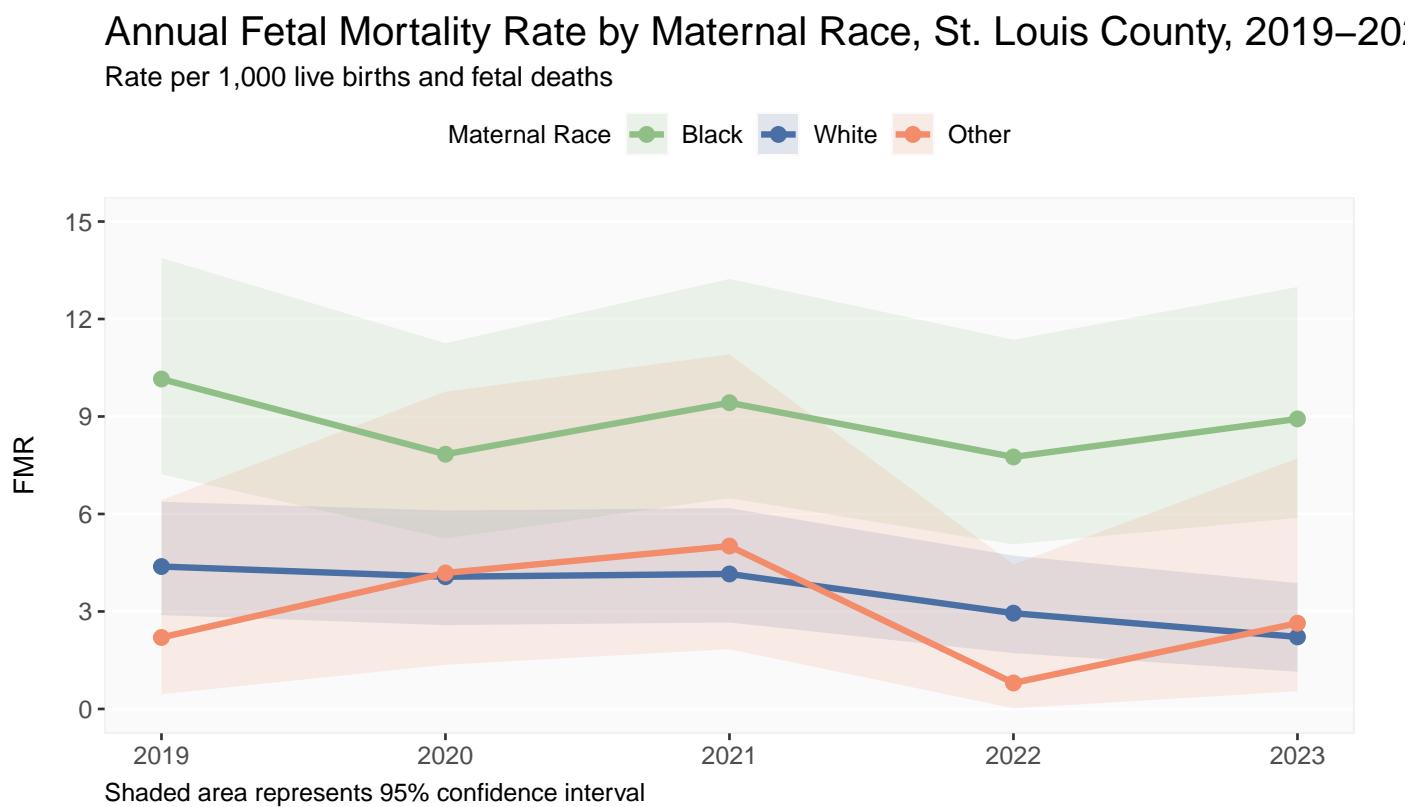
Race	Fetal Deaths	Live Births	Total	Fetal Mortality Rate		95% CI		CI Method
				per 1000 live births and fetal deaths	Lower	Upper		
Black	154	17,267	17,421	8.84	7.44	10.24	Normal	
White	103	28,670	28,773	3.58	2.89	4.27	Normal	
Other	18	6,127	6,145	2.93	1.74	4.63	Poisson	
Missing/Unknown	2	350	352	5.68	0.69	20.52	Poisson	

**Table 4: Fetal Mortality Rate by Race, Saint Louis County, 2019 to 2023**

Table 4: Fetal Mortality Rate by Race, Saint Louis County, 2019 to 2023

Year	Race	Fetal Deaths	Live Births	Total	Fetal Mortality Rate		95% CI		CI Method
					per 1000 live births/fetal deaths	Lower	Upper		
2019	Black	39	3,802	3,841	10.15	7.22	13.88	Poisson	
2019	White	27	6,134	6,161	4.38	2.89	6.38	Poisson	
2019	Other	3	1,361	1,364	2.20	0.45	6.43	Poisson	
2020	Black	29	3,671	3,700	7.84	5.25	11.26	Poisson	
2020	White	23	5,630	5,653	4.07	2.58	6.10	Poisson	
2020	Other	5	1,190	1,195	4.18	1.36	9.76	Poisson	
2020	Missing/Unknown	2	48	50	40.00	4.84	144.49	Poisson	
2021	Black	33	3,469	3,502	9.42	6.49	13.23	Poisson	
2021	White	24	5,754	5,778	4.15	2.66	6.18	Poisson	
2021	Other	6	1,191	1,197	5.01	1.84	10.91	Poisson	
2022	Black	26	3,327	3,353	7.75	5.07	11.36	Poisson	
2022	White	17	5,752	5,769	2.95	1.72	4.72	Poisson	
2022	Other	1	1,251	1,252	0.80	0.02	4.45	Poisson	
2023	Black	27	2,998	3,025	8.93	5.88	12.99	Poisson	
2023	White	12	5,400	5,412	2.22	1.15	3.87	Poisson	
2023	Other	3	1,134	1,137	2.64	0.54	7.71	Poisson	

**Figure 2: Annual Fetal Mortality Rate by Race, Saint Louis County, 2019 to 2023**



**Table 5: Fetal Mortality Rate by Sex, Saint Louis County, 2019 to 2023**

Table 5: Fetal Mortality Rate by Sex, Saint Louis County, 2019 to 2023

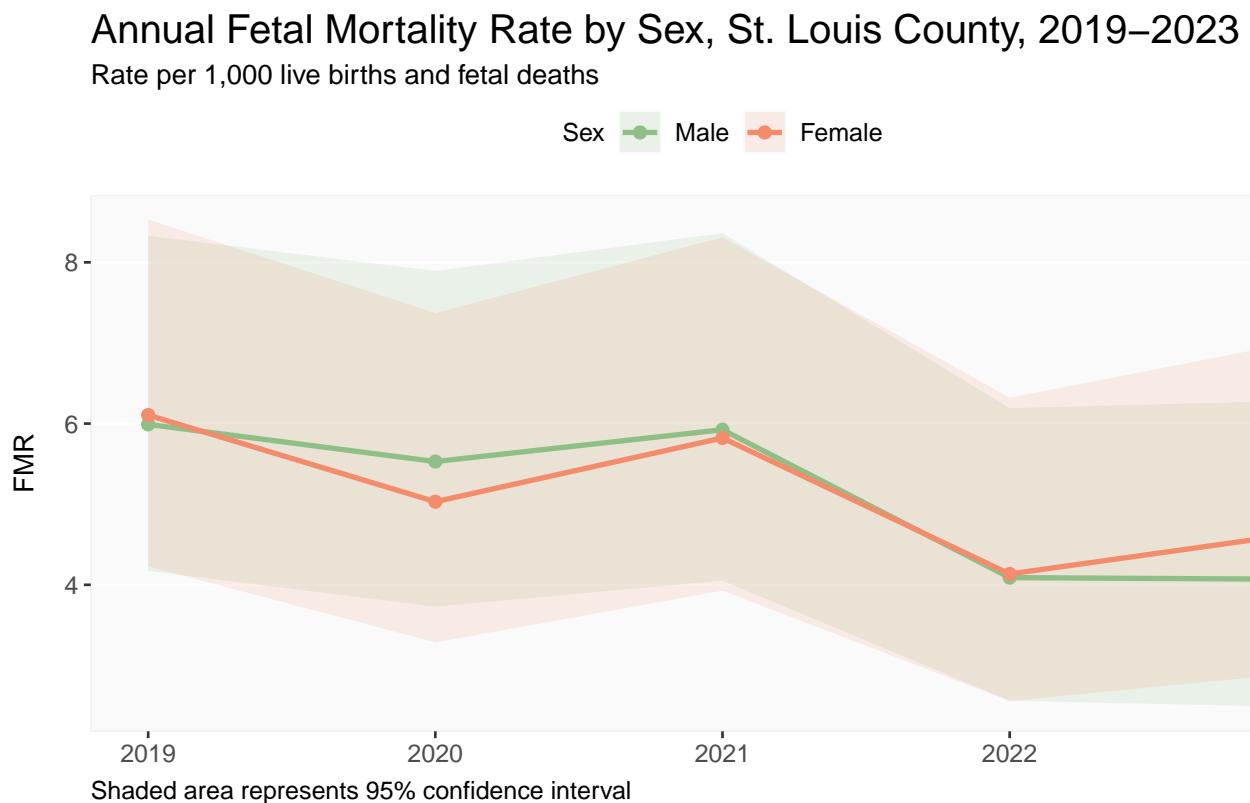
Sex	Fetal Deaths	Live Births	Total	Fetal Mortality Rate		95% CI		CI Method
				per 1000 live births and fetal deaths	Lower	Upper		
M	139	26,828	26,967	5.15	4.30	6.01	Normal	
F	133	25,584	25,717	5.17	4.29	6.05	Normal	
U	5	NA	NA	NA	NA	NA	Poisson	

**Table 6: Annual Fetal Mortality Rate by Sex, Saint Louis County, 2019 to 2023**

Table 6: Annual Fetal Mortality Rate by Sex, Saint Louis County 2019 to 2023

Year	Sex	Fetal Deaths	Live Births	Total	Fetal Mortality Rate		95% CI		CI Method
					per 1000 live births and fetal deaths	Lower	Upper		
2019	M	35	5,808	5,843	5.99	4.17	8.33	Poisson	
2019	F	34	5,535	5,569	6.11	4.23	8.53	Poisson	
2020	M	30	5,396	5,426	5.53	3.73	7.89	Poisson	
2020	F	26	5,142	5,168	5.03	3.29	7.37	Poisson	
2020	U	3	NA	NA	NA	NA	NA	Poisson	
2021	M	32	5,370	5,402	5.92	4.05	8.36	Poisson	
2021	F	30	5,123	5,153	5.82	3.93	8.31	Poisson	
2021	U	1	NA	NA	NA	NA	NA	Poisson	
2022	M	22	5,358	5,380	4.09	2.56	6.19	Poisson	
2022	F	21	5,058	5,079	4.13	2.56	6.32	Poisson	
2022	U	1	NA	NA	NA	NA	NA	Poisson	
2023	F	22	4,726	4,748	4.63	2.90	7.02	Poisson	
2023	M	20	4,896	4,916	4.07	2.49	6.28	Poisson	

**Figure 3: Annual Fetal Mortality Rate by Sex, Saint Louis County, 2019 to 2023**



**Table 7: Fetal Mortality Rate by Maternal Age Group, Saint Louis County, 2019 to 2023**

Table 7: Fetal Mortality Rate by Maternal Age Group, Saint Louis County 2019 to 2023

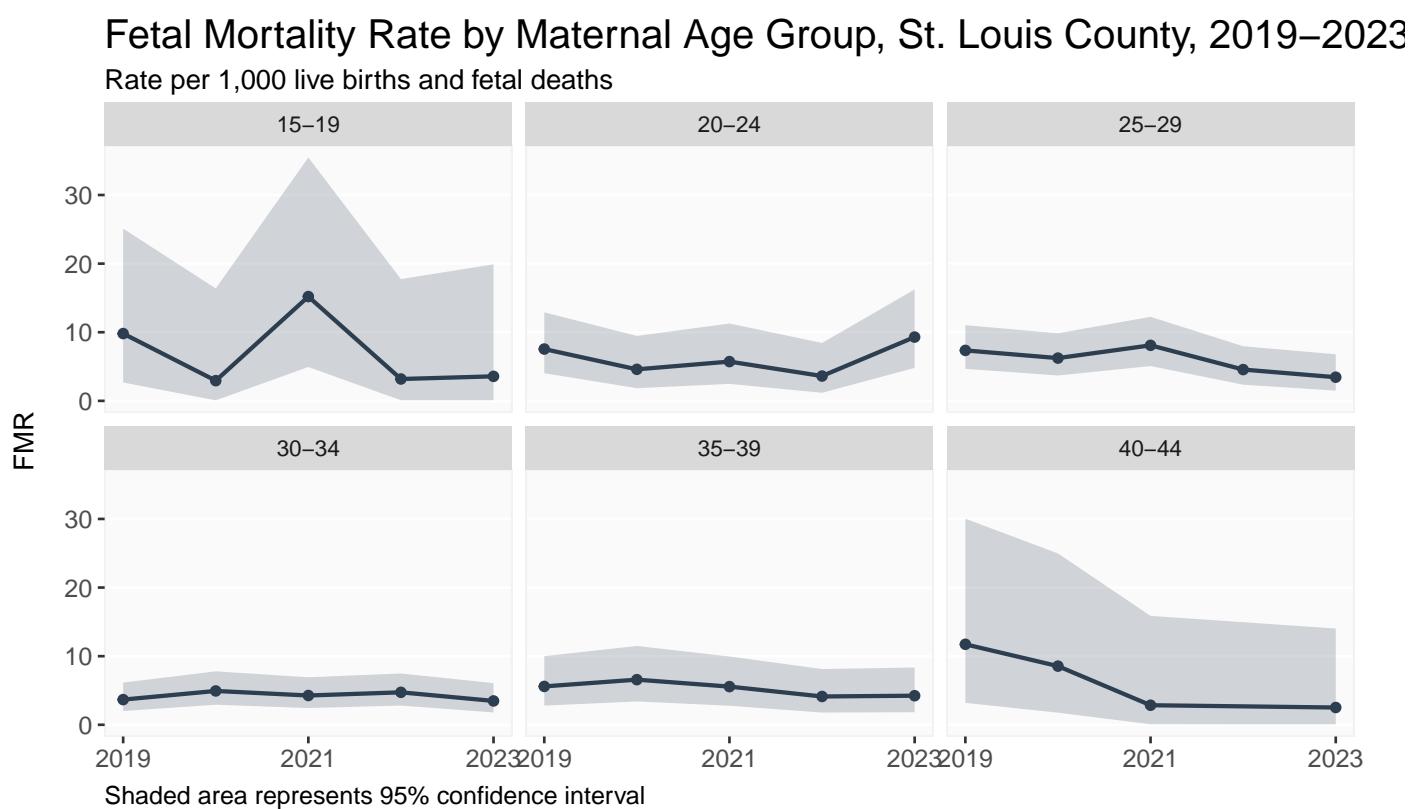
Age Group	Fetal Deaths	Live Births	Total	Fetal Mortality Rate		95% CI		CI Method
				per 1000 live births and fetal deaths	Lower	Upper		
15-19	12	1,659	1,671	7.18	3.71	12.54	Poisson	
20-24	45	7,273	7,318	6.15	4.49	8.23	Poisson	
25-29	83	13,605	13,688	6.06	4.82	7.53	Poisson	
30-34	78	18,397	18,475	4.22	3.34	5.27	Poisson	
35-39	50	9,547	9,597	5.21	3.87	6.87	Poisson	
40-44	9	1,789	1,798	5.01	2.29	9.50	Poisson	

**Table 8: Annual Fetal Mortality Rate by Maternal Age Group, Saint Louis County, 2019 to 2023**

Table 8: Fetal Mortality Rate by Maternal Age Group, Saint Louis County 2019 to 2023

Year	Age Group	Fetal Deaths	Live Births	Total	Fetal Mortality Rate		95% CI		CI Method
					per 1000 live births and fetal deaths	Lower	Upper		
2019	15-19	4	404	408	9.80	2.67	25.10	Poisson	
2019	20-24	13	1,709	1,722	7.55	4.02	12.91	Poisson	
2019	25-29	23	3,105	3,128	7.35	4.66	11.03	Poisson	
2019	30-34	14	3,802	3,816	3.67	2.01	6.16	Poisson	
2019	35-39	11	1,956	1,967	5.59	2.79	10.01	Poisson	
2019	40-44	4	337	341	11.73	3.20	30.03	Poisson	
2020	15-19	1	339	340	2.94	0.07	16.39	Poisson	
2020	20-24	7	1,517	1,524	4.59	1.85	9.46	Poisson	
2020	25-29	18	2,870	2,888	6.23	3.69	9.85	Poisson	
2020	30-34	18	3,633	3,651	4.93	2.92	7.79	Poisson	
2020	35-39	12	1,813	1,825	6.58	3.40	11.49	Poisson	
2020	40-44	3	348	351	8.55	1.76	24.98	Poisson	
2021	15-19	5	324	329	15.20	4.93	35.47	Poisson	
2021	20-24	8	1,390	1,398	5.72	2.47	11.28	Poisson	
2021	25-29	22	2,697	2,719	8.09	5.07	12.25	Poisson	
2021	30-34	16	3,735	3,751	4.27	2.44	6.93	Poisson	
2021	35-39	11	1,966	1,977	5.56	2.78	9.96	Poisson	
2021	40-44	1	350	351	2.85	0.07	15.87	Poisson	
2022	15-19	1	313	314	3.18	0.08	17.74	Poisson	
2022	20-24	5	1,378	1,383	3.62	1.17	8.44	Poisson	
2022	25-29	12	2,620	2,632	4.56	2.36	7.96	Poisson	
2022	30-34	18	3,787	3,805	4.73	2.80	7.48	Poisson	
2022	35-39	8	1,932	1,940	4.12	1.78	8.13	Poisson	
2023	15-19	1	279	280	3.57	0.09	19.90	Poisson	
2023	20-24	12	1,279	1,291	9.30	4.80	16.24	Poisson	
2023	25-29	8	2,313	2,321	3.45	1.49	6.79	Poisson	
2023	30-34	12	3,440	3,452	3.48	1.80	6.07	Poisson	
2023	35-39	8	1,880	1,888	4.24	1.83	8.35	Poisson	
2023	40-44	1	396	397	2.52	0.06	14.03	Poisson	

**Figure 4: Annual Fetal Mortality Rate by Maternal Age Group, Saint Louis County, 2019 to 2023**



## Reference

1. Centers for Disease Control and Prevention. (2023). User guide to the 2023 fetal death public use file. [https://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Dataset\\_Documentation/DVS/fetaldeath/2023fetaluserguide.pdf](https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/DVS/fetaldeath/2023fetaluserguide.pdf)
2. MacDorman, M. F., & Gregory, E. C. W. (2015, July 23). Fetal and perinatal mortality: United States, 2013 (National Center for Health Statistics. Vital and Health Statistics, 64[8], 1–24). <https://stacks.cdc.gov/view/cdc/231851>