

# ShotSpotter Update

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Trying to figure out new directions. We have somewhat solidified a good set of results and think they are relatively robust.

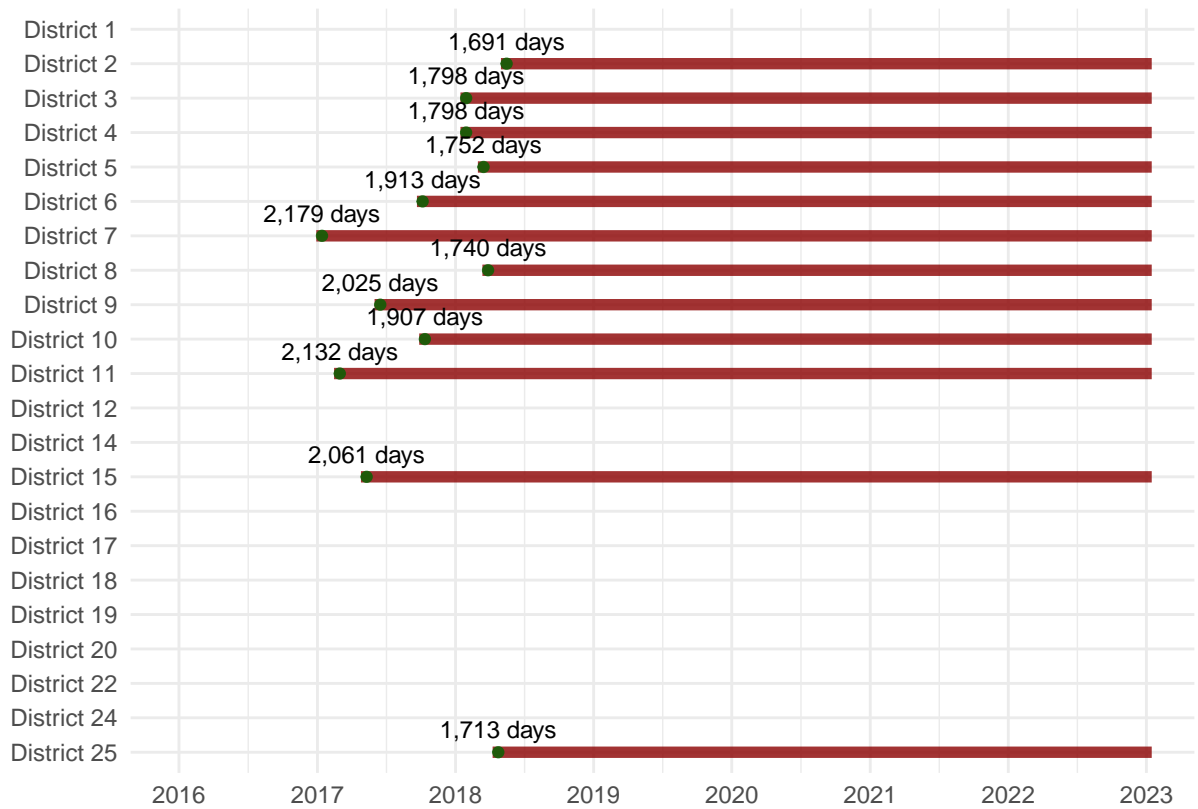


Figure 1: ShotSpotter Rollout Dates by District in Chicago

*Note:* There are a total of 18 police districts in Chicago, 12 of which get ShotSpotter implemented. Implementation began in early 2017 through late 2018.

## 1 Figures

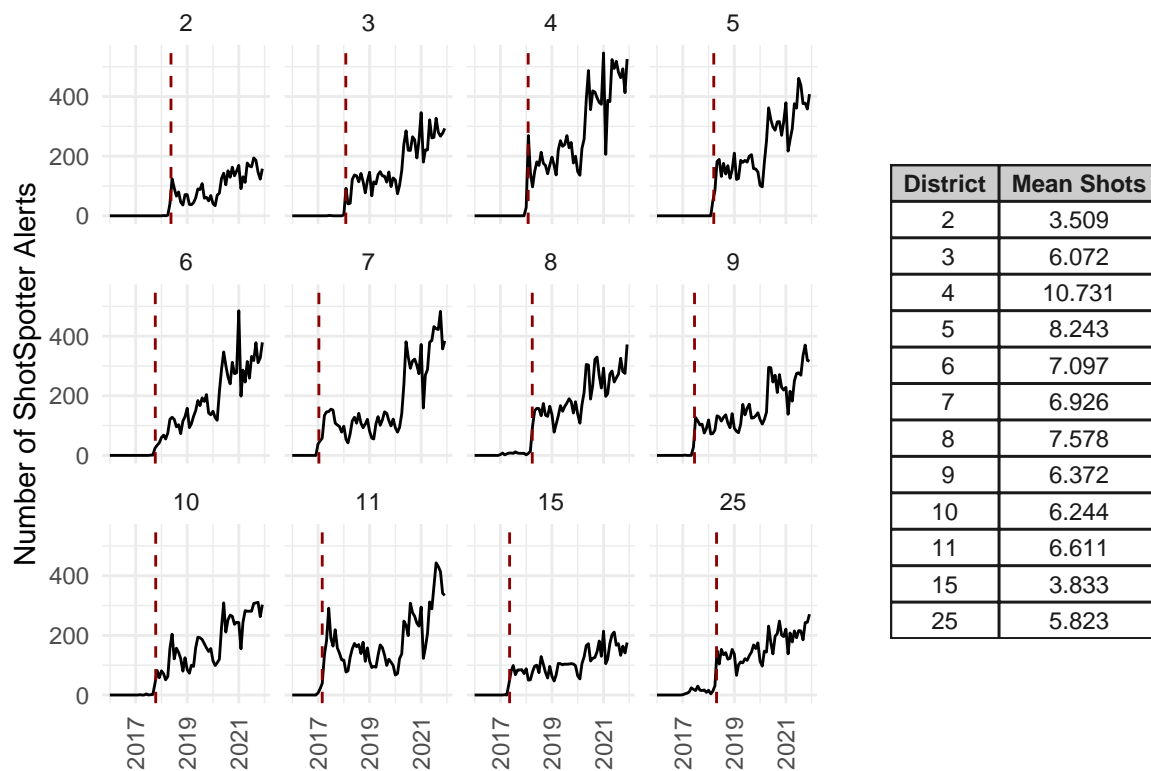


Figure 2: ShotSpotter Alerts Over Time

*Note:* There are a total of 18 police districts in Chicago, 12 of which get ShotSpotter implemented. Implementation began in early 2017 through late 2018. This graph shows the trend of the number of gunshots alerted by ShotSpotter.

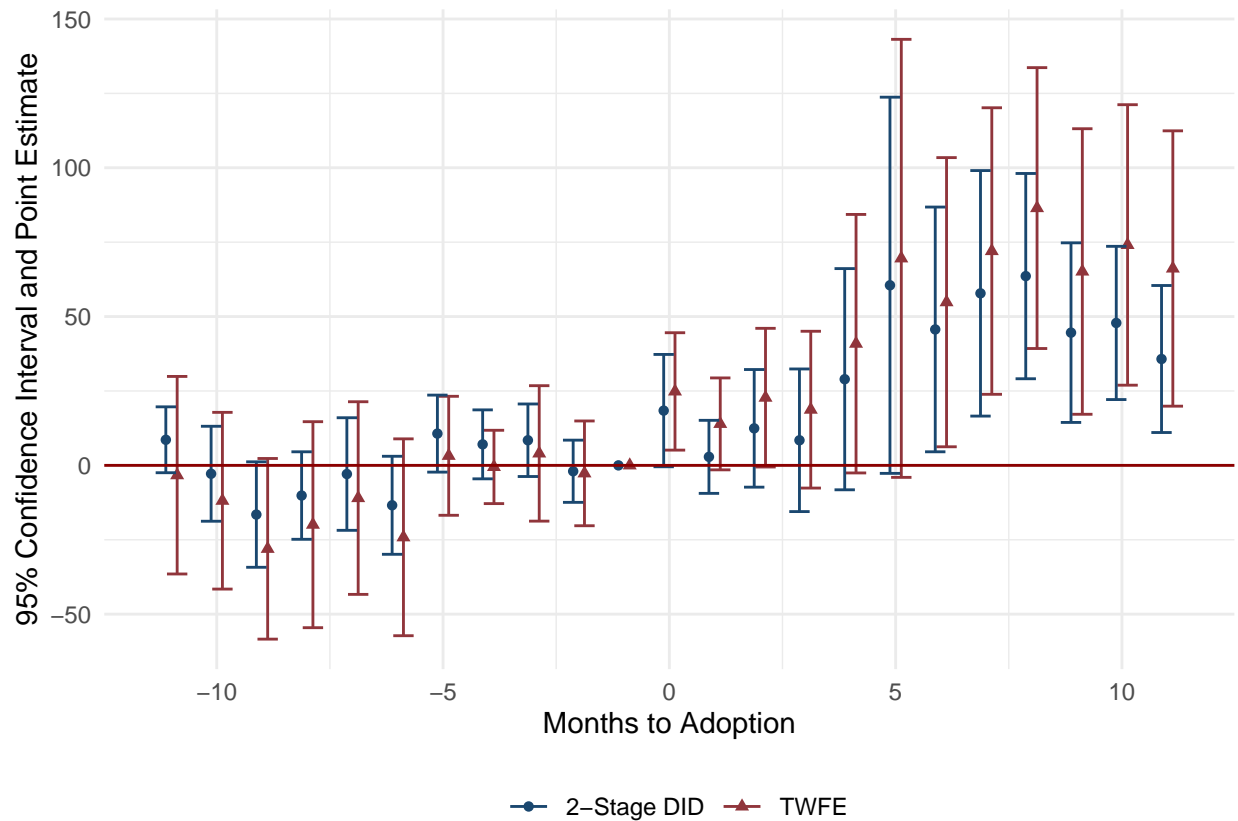


Figure 3: Event Study of Priority 1 Dispatch Times

*Note:* There are a total of 18 police districts in Chicago, 12 of which get ShotSpotter implemented. Implementation began in early 2017 through late 2018. This graph shows priority 1 time from received 911 call to time of dispatch. Priority 1 calls are designated as immediate dispatch.

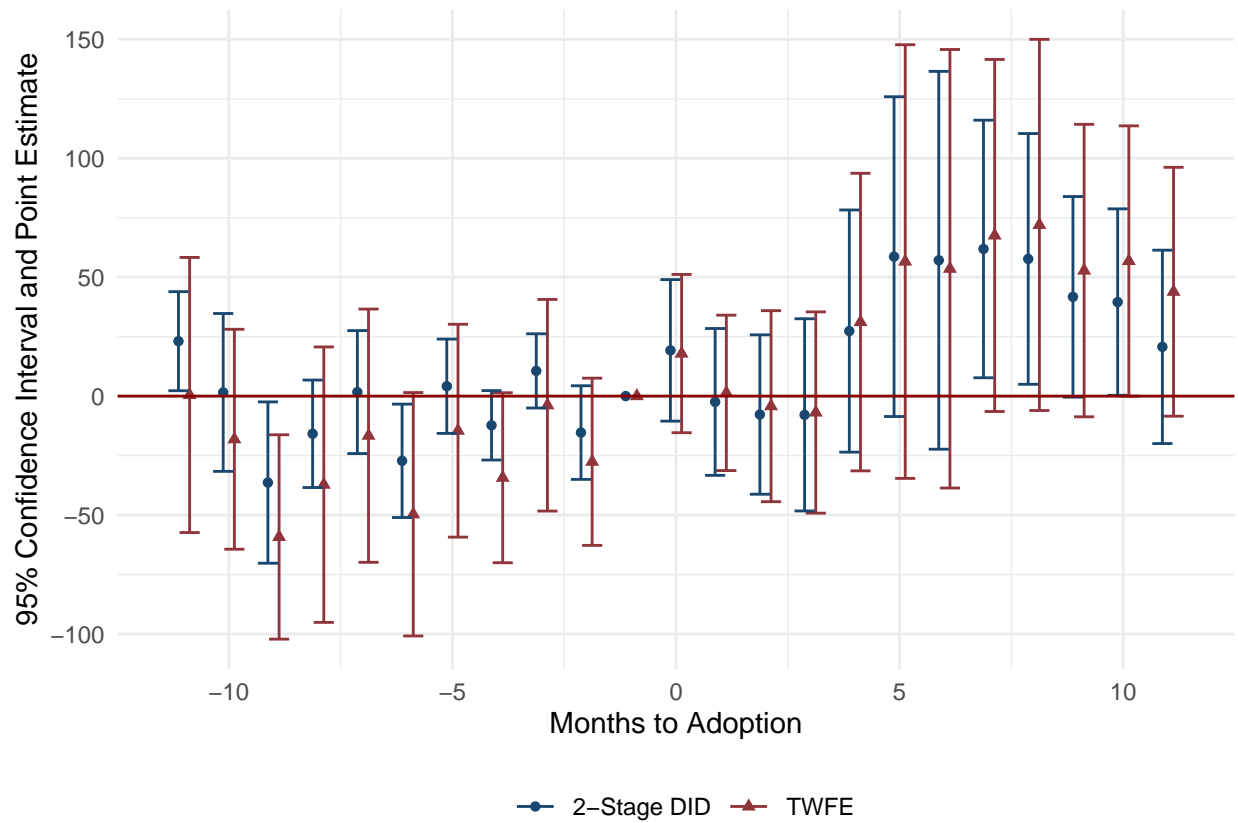


Figure 4: Event Study of Priority 2 Dispatch Times

*Note:* There are a total of 18 police districts in Chicago, 12 of which get ShotSpotter implemented. Implementation began in early 2017 through late 2018. This graph shows priority 2 time from received 911 call to time of dispatch. Priority 2 calls are designated as rapid dispatch.

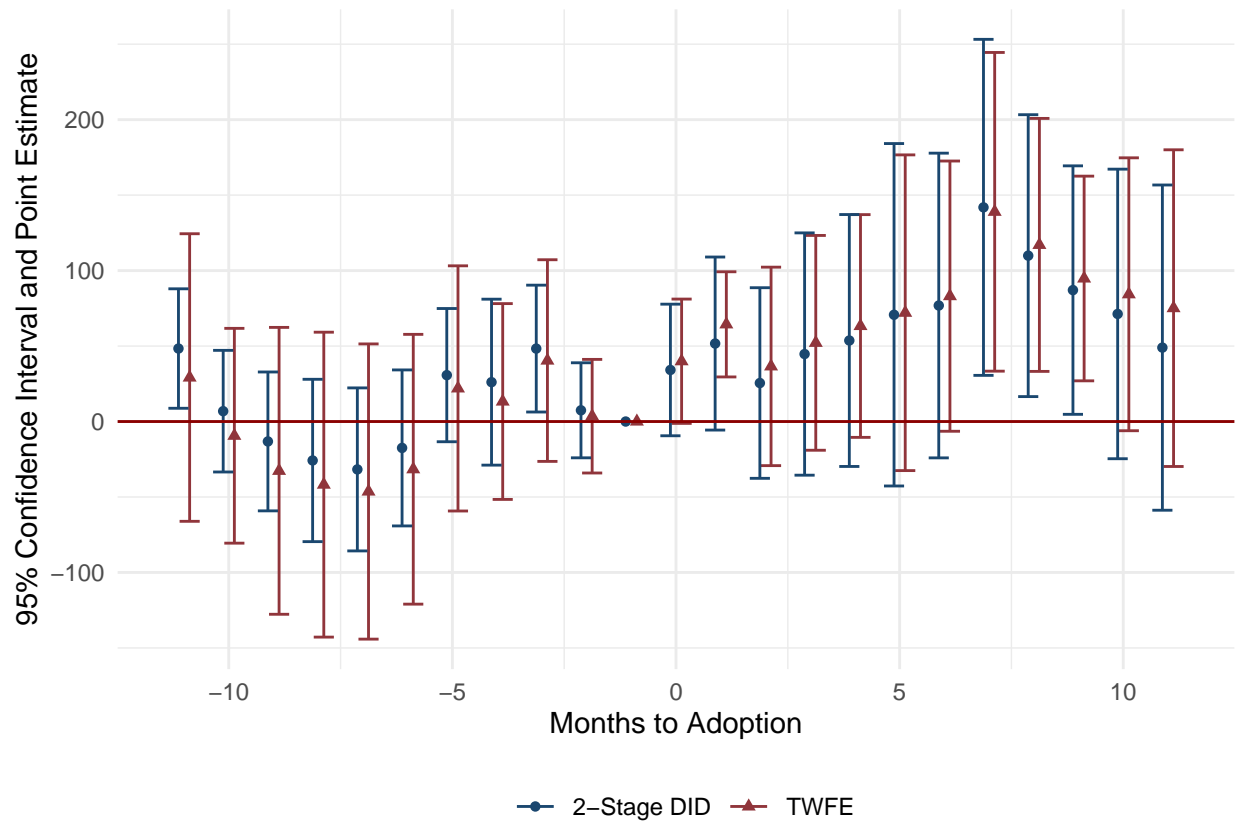


Figure 5: Event Study of Priority 1 Dispatch Times

*Note:* There are a total of 18 police districts in Chicago, 12 of which get ShotSpotter implemented. Implementation began in early 2017 through late 2018. This graph shows priority 3 time from received 911 call to time of dispatch. Priority 3 calls are designated as routine dispatch.

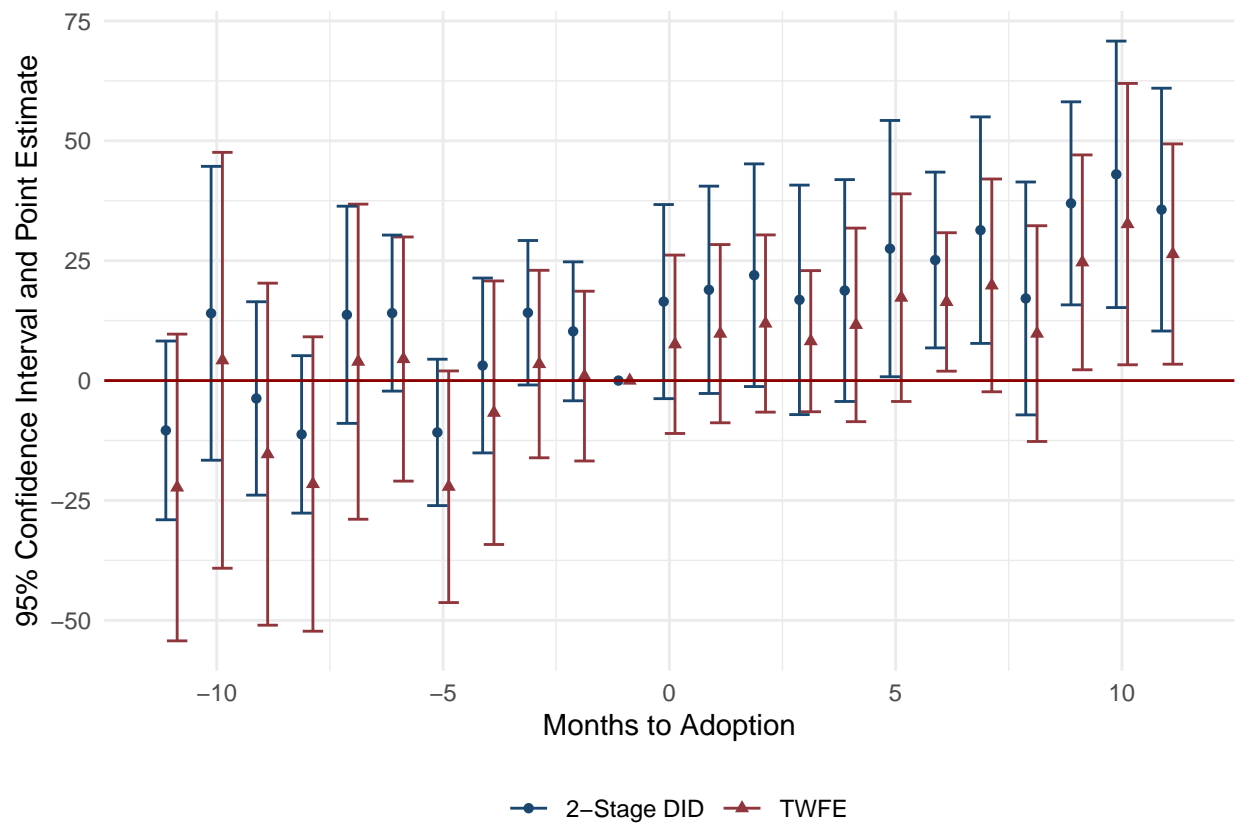


Figure 6: Event Study of Priority 1 Dispatch to On-Scene Times

*Note:* There are a total of 18 police districts in Chicago, 12 of which get ShotSpotter implemented. Implementation began in early 2017 through late 2018. This graph shows priority 1 time from a dispatched 911 call to the time the officer gets on-scene. Priority 1 calls are designated as immediate dispatch.

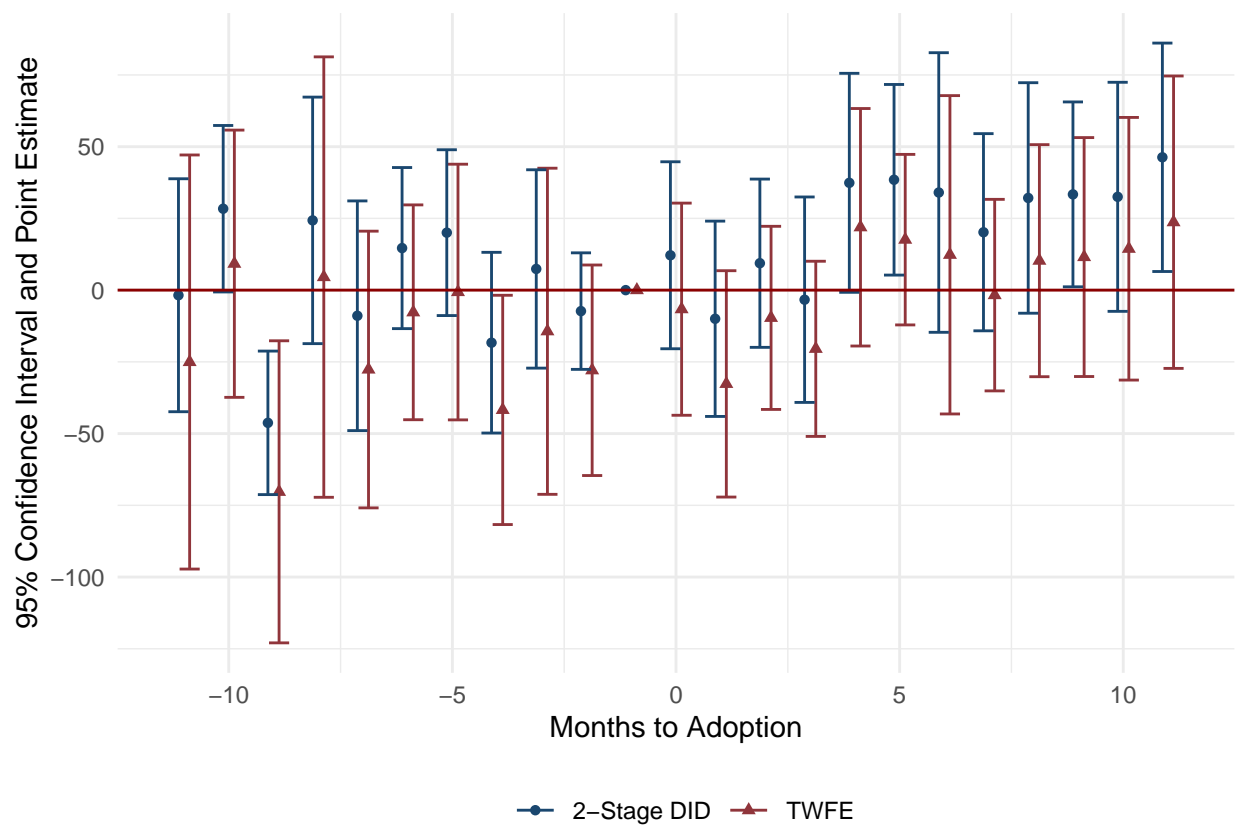


Figure 7: Event Study of Priority 2 Dispatch to On-Scene Times

*Note:* There are a total of 18 police districts in Chicago, 12 of which get ShotSpotter implemented. Implementation began in early 2017 through late 2018. This graph shows priority 2 time from a dispatched 911 call to the time the officer gets on-scene. Priority 2 calls are designated as rapid dispatch.



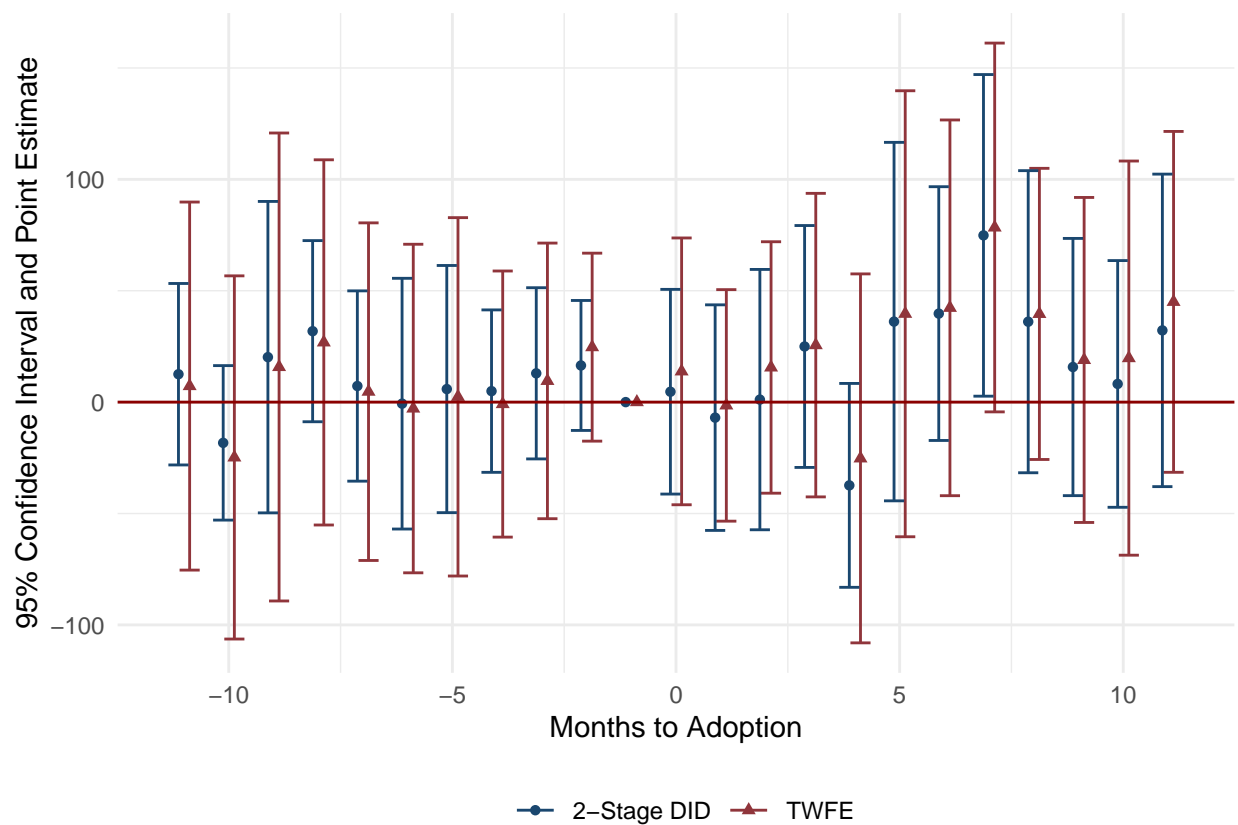


Figure 8: Event Study of Priority 3 Dispatch to On-Scene Times

*Note:* There are a total of 18 police districts in Chicago, 12 of which get ShotSpotter implemented. Implementation began in early 2017 through late 2018. This graph shows priority 3 time from a dispatched 911 call to the time the officer gets on-scene. Priority 3 calls are designated as routine dispatch.

## 2 Tables

Table 1: Effect of ShotSpotter Rollout on Response Times (OLS)

	Priority 1		Priority 2		Priority 3	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Entry to Dispatch</i>						
ShotSpotter Activated	150.224*** (49.959)	148.583*** (50.029)	150.428** (59.082)	148.538** (59.340)	168.727* (92.967)	152.918* (87.750)
Border Activated		11.261 (30.994)		12.968 (40.558)		108.471 (63.250)
Mean of Dependent Variable	329.135	329.135	435.083	435.083	1122.543	1122.543
Observations	56210	56210	56209	56209	56210	56210
<i>Panel B: Dispatch to Onscene</i>						
ShotSpotter Activated	43.363** (15.521)	42.813** (15.248)	49.004** (20.667)	46.587** (20.904)	51.819* (26.828)	47.237 (27.988)
Border Activated		3.780 (16.486)		17.489 (13.780)		31.652 (23.072)
Mean of Dependent Variable	447.477	447.477	570.865	570.865	912.551	912.551
Observations	56200	56200	55914	55914	56115	56115
FE: Day-by-Month-by-Year	X	X	X	X	X	X
FE: District	X	X	X	X	X	X

*Note:*

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Standard errors are clustered by district. Shotspotter is activated in 12 of the 22 police districts in Chicago. Priority calls range from 0-5. Only priorities 0-3 are shown here as. Priority 0 is highest priority (office calling for help), Priority 1 is immediate dispatch. Priority 2 is rapid dispatch. Priority 3 is routine dispatch. Panel A shows the time from entry call to dispatched officer. Panel B shows time from the dispatched officer to on scene. Controls in all models include controls for officer hours and number of dispatches.