When One Dataset Isn't Enough: Identifying Pre- and Post- Trends of Constitutional Carry Law Enactment Using a Triangulation Research Approach*

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Abstract

On June 13, 2022, Ohio enacted a permitless carry law (PCL), allowing Ohioans to obtain a firearm without a concealed-carry license. This exploratory study evaluated crime incidents involving a firearm in the eight largest cities in Ohio before and after the law went into effect. Utilizing a triangulation research technique, we analyzed several sources of data to identify and assess pre- and post-PCL trends from June 2021 to June 2023 including crime incidents involving a firearm, law enforcement officers killed or injured by a firearm, and acoustic gunshot detection validated incidents.

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Background

- Mixed results on the true impact of permitless carry, and like laws, on crime and public safety.
- More lenient carry laws are associated with higher rates of fatal and non-fatal officer and citizen shootings.
  - Average of 12.9% increase in the rate of officer involved shootings.
- Impact on police:
  - Increased perceived threat of danger and suicide-by-cop incidents.
  - Decreased police-community relations and crime-suppressing police operations.
- Gunshot detection systems, an approach to addressing gun violence and crime, can decrease police response time and may be beneficial for patrol tactics.

Method

Sample

- 1 June 2021 – 30 June 2023
- Cincinnati, Dayton, Akron, Columbus, Cleveland, Parma, Canton, and Toledo
- Crime incidents involving a firearm
- Validated ShotSpotter incidents – Columbus and Toledo
- Injured and killed law enforcement officers – Gun Violence Archive and the Officer Down Memorial Page.

Analysis

- Independent Samples T-Test
- Mann-Kendall Trend Test (MK)

Limitations

- Generalizability
- Time period
- Crime incident data provided by different sources: Ohio Incident-Based Reporting System (OIBRS), Columbus Police Department, and the Dayton and Cincinnati data portals.

Figure 1. Rate of Crime Incidents Involving a Firearm per 1,000 Person – Eight Largest Cities in Ohio. Monthly crime incidents involving a firearm are presented

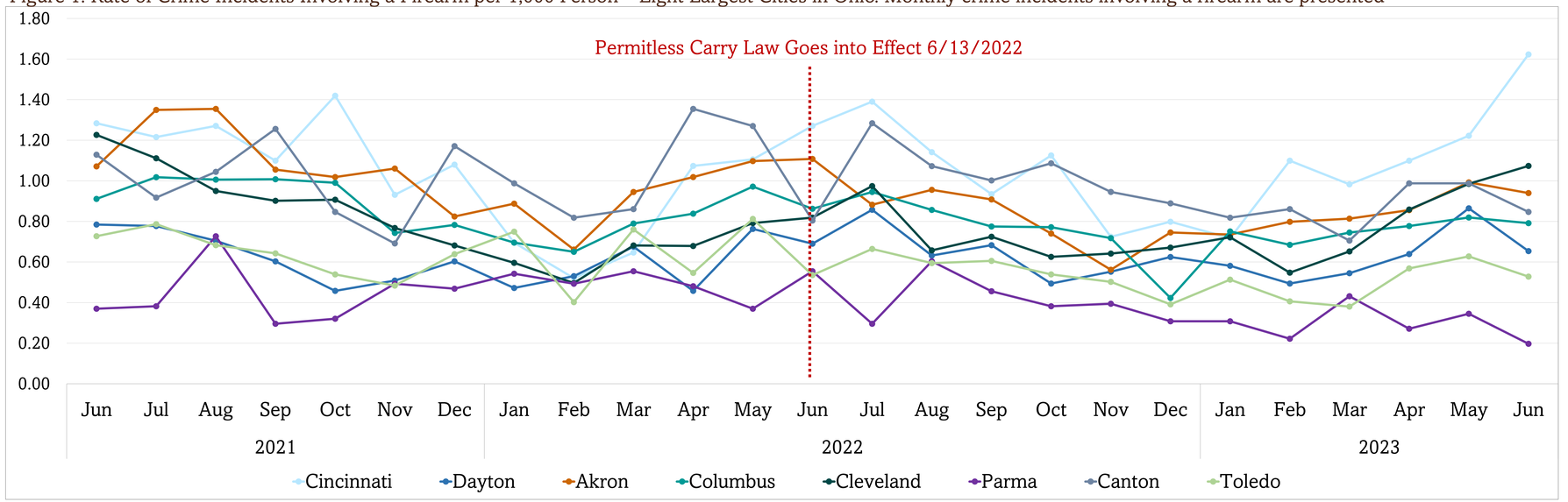
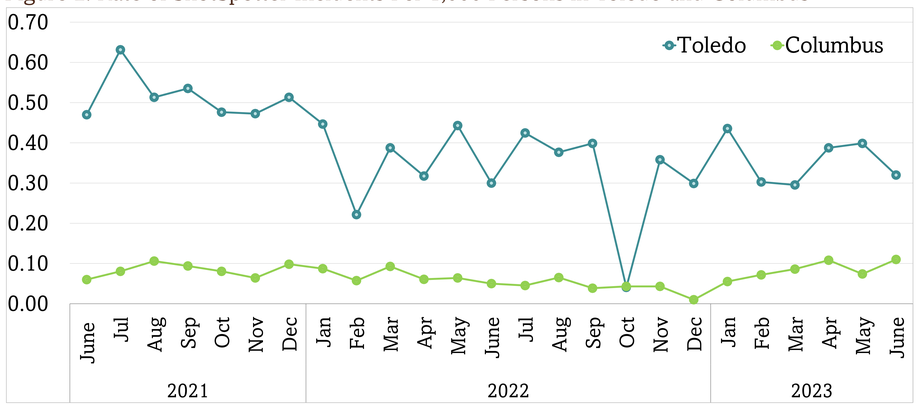


Table 1. MK and Independent Samples T-Test Results. Significant findings are bolded.

	Mann-Kendall Trend Test			Independent Samples T-Test		
City	tau	*p*-value	Sen's Slope	*t*-value	*df*	*p*-value
Cincinnati	-0.047	0.642	-0.279	-0.482	48	0.632
Dayton	-0.041	0.692	-0.055	-0.801	48	0.427
Akron	**-0.289**	**0.004**	**-0.775**	**2.87**	**48**	**0.006**
Columbus	**-0.231**	**0.02**	**-2**	**2.007**	**48**	**0.05**
Cleveland	-0.19	0.056	-0.778	0.645	48	0.522
Parma	-0.187	0.064	-0.125	**2.42**	**48**	**0.019**
Canton	-0.075	0.458	-0.078	0.709	48	0.481
Toledo	**-0.263**	**0.018**	**-0.566**	**2.613**	**40.3**	**0.013**
All Cities Combined	**-0.209**	**0.035**	**-4.5**	1.396	48	0.169

Figure 2. Rate of ShotSpotter Incidents Per 1,000 Persons in Toledo and Columbus



Findings & Discussion

Findings

- Seasonal increases in crime rates for the spring-summer months appear pre- and post- PCL.
- Rates in all cities, except for Akron and Parma, increased after the PCL went into effect for about six weeks and fell back into similar trends pre-PCL.
- MK Trend Test - Significant decrease in crime incidents involving a firearm for Akron, Columbus, and Toledo, and across all 8 cities combined.
- Rates in crime involving a firearm slightly increased in Dayton and Cincinnati post-PCL.
- Independent Samples T-Test – variations in the average number of incidents in Columbus, Akron, Parma, and Toledo pre- and post- PCL.
- No appreciable effect on law enforcement injuries or death by firearm – 3 pre-PCL and 4 post-PCL
- ShotSpotter technology for Columbus and Toledo indicated a decrease in validated crime incidents post-PCL by 20.6% and 23.2%, respectively.

Future Directions

- Continue to collect data on crime incidents involving a firearm to examine the impact of the PCL overtime.
- Analyze firearm incidents in additional cities and states.
- Obtain acoustic gunshot detection validated incidents (i.e., ShotSpotter) for additional cities.
- Consider demographic and societal factors.

*Funded by The Ohio Attorney General Dave Yost, Center for Justice Research at Bowling Green State University