

# Police Sustainability & Cost Analysis Study

Lower Windsor Township  
York County, PA

APRIL 2026



Pennsylvania  
Department of Community  
& Economic Development  
Governor's Center for Local Government Services

Governor's Center for  
Local Government Services

Nelson E. Whitney, II  
Police Peer Consultant



Commonwealth of Pennsylvania  
Josh Shapiro, Governor

PA Department of Community & Economic Development  
Rick Siger, Secretary  
[dced.pa.gov](http://dced.pa.gov)



# Table of Contents

Executive Summary .....	1
Introduction .....	2
Lower Windsor Township Police Department (LWTPD) Overview.....	3
Law Enforcement Industry Benchmarks and Comparisons .....	5
Cost of Services and Budget .....	5
Per Capita Comparisons and Commentary .....	5
Percentage Comparison of Personnel and All-Other Expenses .....	9
Percentage of Police Budget.....	11
Current Police Statistics of the Municipality .....	12
Crime Statistics and Incident Information .....	13
Determining Police Staffing Using the IACP Formula .....	14
IACP Staffing Formula Breakdown .....	15
Average Breakdown Officer’s “Unavailable Hours” .....	16
Recommended Police Staffing .....	17
Lower Windsor Township Police Department.....	17
Patrol Deployment and Staffing .....	18
Shift Scheduling Overview and Empirical Insights .....	18
Eight-Hour Shift Model .....	18
Twelve-Hour Shift Model .....	19
Ten-Hour Shift Model .....	19
Conclusion and Best Practices .....	20
Analysis of Lower Windsor Township Police Department .....	20
December 2025 Patrol Schedule .....	20
Overview of Schedule Structure .....	20
Key Strengths in Alignment with Best Practices .....	21
Recommendations for Optimization.....	22
Conclusions .....	22
DCED and Governor’s Center for Local Government Services .....	23
Notes .....	24

# Executive Summary

The Governor's Center for Local Government Services (GCLGS), through the Department of Community and Economic Development (DCED), conducted a cost analysis of the Lower Windsor Township Police Department (LWTPD) at the request of township officials. This study, led by peer consultant Chief Nelson E. Whitney, II, evaluated the department's operational efficiency, financial sustainability, staffing adequacy, and alignment with industry benchmarks. Data was sourced from township officials, the LWTPD, DCED municipal surveys, U.S. Census, PennDOT, and FBI Uniform Crime Reports (UCR) for 2024.

LWTPD, established in 1984, serves a 25-square mile rural area with a population of 7,547 (2020 Census), including East Prospect Borough (combined population 8,302). The department comprises 10 full-time officers and 2 clerical staff, led by Chief L. James Thomas, emphasizing community engagement, transparency tools (e.g., body cameras, Crimewatch), and partnerships with regional agencies. Key initiatives include a School Resource Officer (SRO) program, drug enforcement collaborations, and road safety efforts.

Financial benchmarks reveal a 2024 per capita cost of \$255.34, below Pennsylvania's statewide average of \$285, and competitive with York County peers. Personnel expenses averaged 85%-89% of the budget from 2020-2024, aligning with the 85%-90% industry standard. The police budget constitutes 51%-54% of the township's general fund.

Crime statistics show 46 Part 1 crimes and 402 Part 2 crimes in 2024, yielding a crime rate of 59 per 1,000 persons. The department handled 2,650 incidents, below the International Association of Chiefs of Police (IACP) projection of 4,151 based on population. Using the IACP staffing formula, LWTPD requires 9 officers for adequate coverage, investigations, and patrol. With the addition of one SRO, the current staffing level is 10 sworn officers. LWTPD is therefore properly staffed with a total of 10 sworn officers.

Patrol deployment employs a 10-hour shift model with targeted overlaps for peak demand, ensuring supervision and 24/7 coverage. Analysis of the December 2025 schedule highlights strengths in quality-of-life benefits and unity of command but recommends workload-based refinements, such as calls-for-service (CFS) analysis, to optimize efficiency.

Overall, LWTPD provides professional, community-focused services at a reasonable cost.

# Introduction

The intent of this study was to conduct a cost analysis of the Lower Windsor Township Police Department. The study was initiated at the request of the elected officials from Lower Windsor Township. Lower Windsor Township submitted an official "Letter of Intent" to representatives of the Governor's Center for Local Government Services (hereafter referred to as the GCLGS), located in the Pennsylvania Department of Community and Economic Development (DCED). The letter of intent officially requested that a study be conducted by the GCLGS and, furthermore, recognized that none of the participating municipalities were obligated or bound by the results of the study in any way.

The information presented in this study is intended to assist the local government of Lower Windsor Township in evaluating the cost of its police services. The information used in this study was collected and provided by the local officials, the Lower Windsor Township Police Chief, and DCED.

Finally, on behalf of DCED and the Governor's Center for Local Government Services, Chief Whitney would like to thank all the local government officials and Lower Windsor Township Police Department for their excellent cooperation. Their assistance in completing the review of the police department greatly aided in this cost study. Such cooperation was very much appreciated and contributed immensely to the successful completion of the study.

## **Chief Nelson E. Whitney, II**

The peer consultant for this report is Chief Nelson E. Whitney, II. Chief Whitney conducted the work under the GCLGS Management Peer-to-Peer Program. Chief Whitney has served with the Falls Township Police Department for 38 years, including 8 years as a Lieutenant (commanding both the Criminal Investigation Division and the Patrol Division) and 5 years (as of this writing) as Chief of Police. Chief Whitney has also been a volunteer firefighter and has been an Emergency Medical Technician for 35 years.

Chief Whitney has a Bachelor of Science degree in Criminal Justice Administration from Franklin University. Chief Whitney is also a graduate of the Northwestern University School of Police Staff and Command, the Command and Leadership Academy, The FBI LEEDA Trilogy Program, the FBI LEEDA Five Star Chief Executive Program, the FBI Mid-Atlantic LEEDS Program and is also a graduate of Cambridge University's Evidence-Based Policing Program.

# **Lower Windsor Township Police Department (LWTPD) Overview**

The Lower Windsor Township Police Department (LWTPD) was established on April 1, 1984, initially with five full-time officers operating from the Municipal Building at 111 Walnut Valley Court. Over the years, it has evolved, featuring three K-9 officers and a DARE officer. In 2004, the department relocated to its current facility at 2425 Craley Road in the Township Community Building. Today, it consists of 10 full-time officers and one civilian administrative assistant, serving a predominantly rural area of approximately 25 square miles that includes farmland, residential neighborhoods, light industry, and a waterfront recreation zone along the Susquehanna River.

Led by Chief L. James Thomas, the department emphasizes fair, professional service, community trust, and accountability. It deploys resources like body-worn cameras (introduced in spring 2021) and maintains partnerships with agencies such as the PA State Police, PA Game Commission, PA Fish and Boat Commission, York County Detectives, Hellam Township PD, and York County Regional PD. Recent upgrades include a renovated squad room and tools for transparency, such as a Facebook page (established 2016) for event announcements and police blotters, and Crimewatch (launched March 2021) for public tips, camera registries, and incident mapping.

Community engagement is a core focus, with annual events like National Night Out (first held 2019), Coffee with a Cop, and the Shop With A Cop program (ongoing since 2005, benefiting 20 children from needy families in the Eastern York School District each year through donations and shopping trips to Target). The department also partners with the Eastern York School District, providing a School Resource Officer at the high and middle schools, coaching youth sports, chaperoning school trips, and running alcohol education programs via a PLCB grant, including "Drunk Goggles" simulations.

Road safety initiatives include partnerships with the PA Aggressive Driving Enforcement and Education Program, PA DUI Association, and Buckle Up PA, with certified child safety seat inspections and a speed board for awareness (deployed May 2020). Chief Thomas serves as the Motor Carrier Enforcement Officer, certified since 2001 under the Federal Motor Carrier Safety Assistance Program (MCSAP), conducting commercial vehicle inspections.

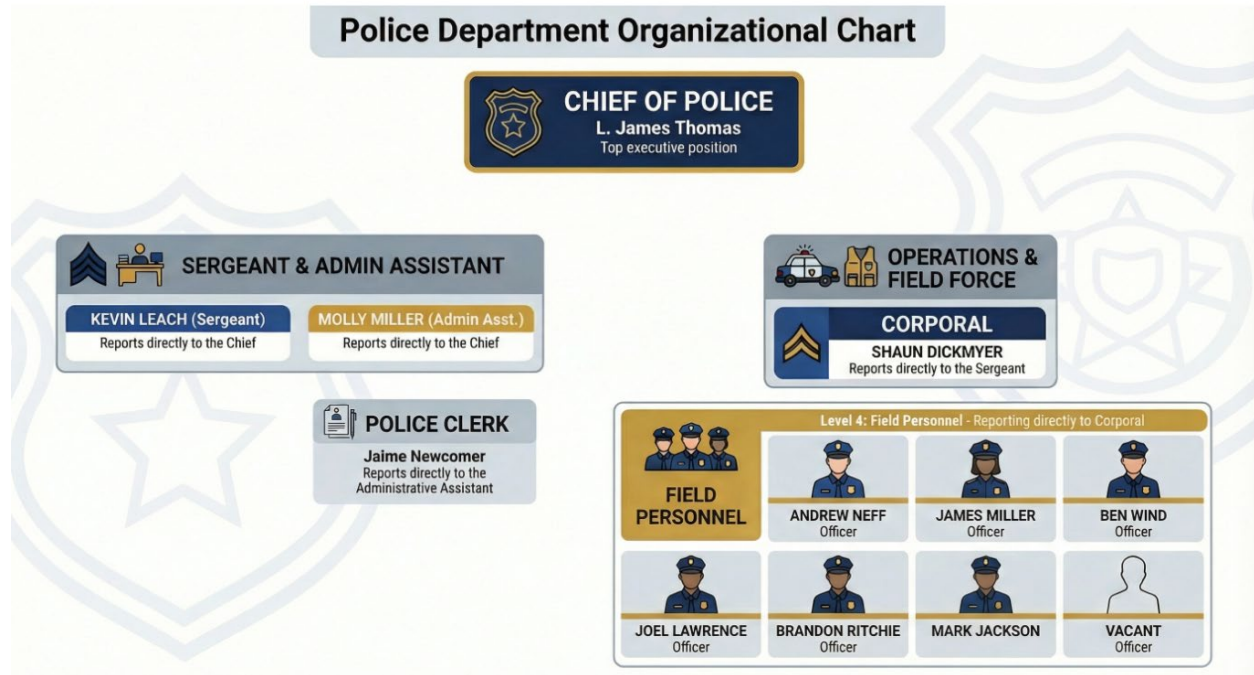
The fleet comprises of two Dodge Chargers, four Ford SUVs, one Ford F-150, and a Hummer for extreme conditions.

The department assists other emergency services, including local fire companies (East Prospect, Yorkana, Craley) for investigations and crowd control, neighboring police departments for incidents like accidents and homicides, and EMS with AEDs and first aid. Drug enforcement involves collaboration with the York County Drug Task Force, a liaison to PA State Police PACIC, and the York Opioid Collaborative; a pharmaceutical drop box is available at the station for safe medication disposal.

Several officers have military backgrounds, including service in the US Marine Corps (Ben Wind), US Army Reserves (Shaun Dickmyer and Joel Lawrence), contributing to the department's disciplined approach. LWTPD honors public servants through the York County

Pipes and Drums (co-founded by the department) and organizes the local Fallen Officers Memorial Service annually in May. Officers undergo extensive training in areas like active shooter response, DUI enforcement, crisis intervention, and tactical driving.

## Organizational Structure



One of the LWTPD's officers is a School Resource Officer (SRO). The expense for this officer is offset by wage reimbursement (\$91,454 in the 2024 budget). LWTPD also receives slightly more than \$60,000 annually from East Prospect Boro for contracted police services (\$63,048 proposed in the 2024 budget). Although there is no statewide database to compare the cost of contracted police services, this fee arrangement appears reasonable.

# Law Enforcement Industry Benchmarks and Comparisons

## Cost of Services and Budget

Industry benchmarks and comparable local data are commonly used to evaluate and assess the cost of delivering professional police services. These measures provide a framework for determining whether resources are appropriately aligned with operational expectations and community needs. It is widely recognized in American policing that sustained underinvestment can adversely affect service delivery, organizational performance, officer safety, and public trust. Numerous examples nationwide demonstrate that insufficient or misdirected funding has resulted in negative outcomes for communities, police organizations, and individual officers alike.

A key organizational advantage is the ability to develop and prepare qualified leadership internally to support continuity and stability through planned succession. This approach is effective only when candidates demonstrate consistent competency, sound judgment, and professional character. In the absence of such internal readiness, it may be necessary to consider external recruitment or a reassessment of the department's operational or organizational model.

The following industry benchmarks are examined as part of this analysis:

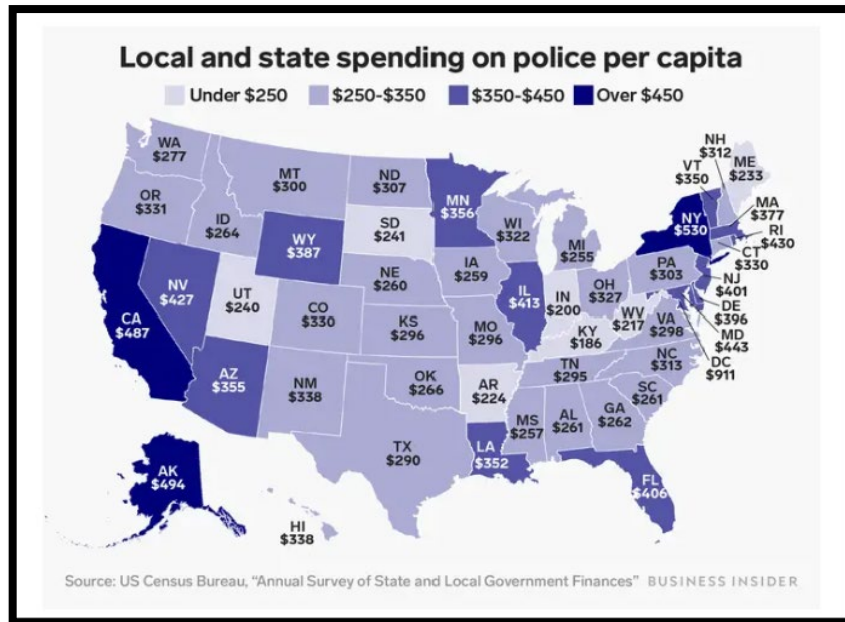
1. **Per Capita Cost:** The cost of police services on a per-resident basis.
2. **Percentage of Personnel Costs:** An accepted standard range of 85 percent to 90 percent of the police budget. Percentages exceeding this range may indicate internal structural or fiscal imbalances requiring further review.
3. **Percentage of the Total Municipal Budget:** How much of the municipal budget is spent on police services.

## Per Capita Comparisons and Commentary

The first industry benchmark used to evaluate police expenditures and identify potential fiscal concerns is the per capita cost. Per capita cost represents the amount of funding required from each resident to support the police department's annual operating budget. For example, a police budget of \$100,000 serving a population of 1,000 residents results in a per capita cost of \$100 per resident.

Per capita cost is also commonly used by municipalities to compare police service expenditures with neighboring jurisdictions and statewide averages. For Lower Windsor Township and East Prospect Borough, the combined population of 8,302 residents is divided into the total 2024 police department budget of \$2,119,793. Based on this calculation, the per capita cost for police services in 2024 is \$255.34 per resident.

By comparison, the average per capita cost for police services across the Commonwealth of Pennsylvania, encompassing approximately 892 police departments, is \$285. This indicates that the per capita cost for Lower Windsor Township and East Prospect Borough is below the statewide average.



In 2024, Lower Windsor Township's per capita amount is within an acceptable range when compared to the Commonwealth of Pennsylvania. See table on page 8 to compare the per capita rates to other York County police departments.

The reader should take into consideration that the price comparison does not equate to the level of professional services provided by these other organizations.

## Lower Windsor Twp. PD

**LWT 2024 P.C. = \$255.34**

**LWT Total Population = 8,302**

Lower Windsor Twp and East Prospect Borough

MUNICIPALITY_NAME	PD PER CAPITA	POPULATION	TAXES PER CAPITA
CARROLL TWP	\$431	6,853	\$533.24
FAIRVIEW TWP	\$264	17,451	\$419.42
HELLAM TWP	\$256	5,923	\$411.89
<b>LOWER WINDSOR TWP</b>	<b>\$255</b>	<b>8,302</b>	<b>\$280.69</b>
WEST MANHEIM TWP	\$236	9,072	\$585.27
WEST MANCHESTER TWP	\$211	19,206	\$513.56
EAST MANCHESTER TWP	\$196	8,337	\$438.86
MANCHESTER TWP	\$188	19,515	\$493.53
SPRINGETTSBURY TWP	\$157	27,058	\$491.09
HEIDELBERG TWP	\$152	3,031	\$351.19
DOVER TWP	\$148	22,366	\$293.94
NEWBERRY TWP	\$133	15,672	\$399.26
CONEWAGO TWP	\$125	8,528	\$415.52
PARADISE TWP	\$122	3,969	\$311.77
WINDSOR TWP	\$121	17,853	\$280.23
JACKSON TWP	\$113	8,748	\$347.34
MANHEIM TWP	\$91	3,462	\$329.59
NORTH CODORUS TWP	\$90	9,152	\$302.42
FRANKLIN TWP	\$77	5,032	\$259.50

NORTH HOPEWELL TWP	\$70	2,723	\$288.46
MONAGHAN TWP	\$42	2,675	\$361.19
PEACH BOTTOM TWP	\$0	4,966	\$346.46
SHREWSBURY TWP	\$0	6,649	\$338.01
HOPEWELL TWP	\$0	5,271	\$323.31
SPRINGFIELD TWP	\$0	6,026	\$320.94
FAWN TWP	\$0	3,012	\$285.18
EAST HOPEWELL TWP	\$0	2,422	\$269.72
WARRINGTON TWP	\$0	4,552	\$250.46
CODORUS TWP	\$0	3,904	\$242.62
WASHINGTON TWP	\$0	2,573	\$216.71
LOWER CHANCEFORD TWP	\$0	3,031	\$216.33
CHANCEFORD TWP	\$0	5,936	\$198.86

# Percentage Comparison of Personnel and All-Other Expenses

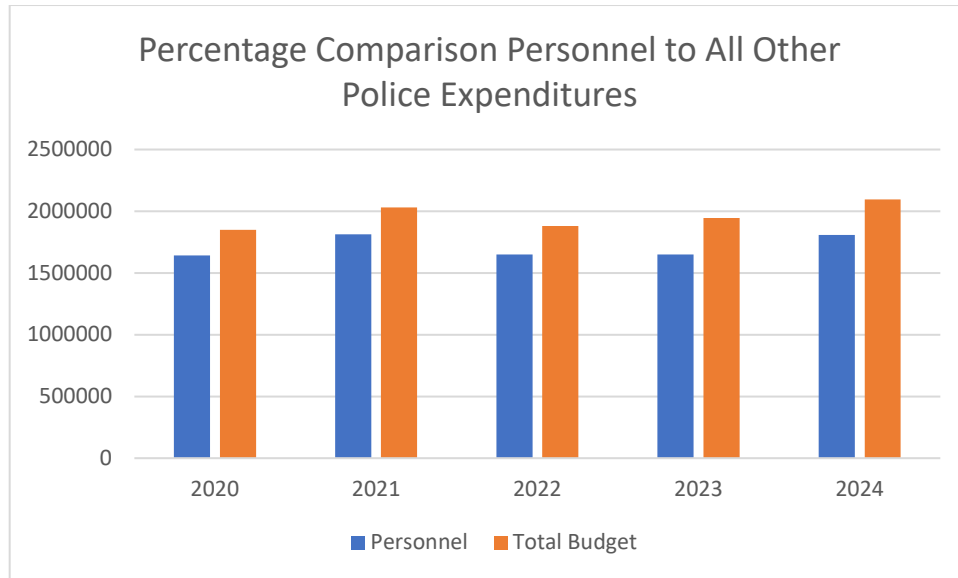
The second evaluation examines the proportion of total expenditures allocated to personnel costs. The industry benchmark used to identify potential fiscal concerns is the comparative percentage between personnel expenses, which include wages, benefits, and related costs and the remaining expenditure categories, collectively referred to as “all other” expenses. The Police Executive Research Forum (PERF) has identified this ratio as a key financial indicator that warrants regular monitoring. Analysis of this metric can help identify trends or raise questions regarding a police department’s financial condition, including issues related to staffing levels, workforce experience and career age, and the impacts of collective bargaining agreements.

Historically, the standard ratio between personnel and all other expenses was approximately 85% to 15%. In recent years, however, this ratio has increased. While no single causal analysis is offered here, it is reasonable to conclude that personnel-related costs have risen over time. Contributing factors likely include more competitive wage and benefit packages, an increasingly experienced workforce, higher professional qualification requirements, and the impact of unfunded legal and regulatory mandates.

The current accepted financial standard reflects approximately 90% of a police department’s operating budget being allocated to personnel expenses, with the remaining 10% covering all other costs. For example, in a \$100,000 budget, approximately \$90,000 would be dedicated to personnel expenditures. This distribution is widely recognized as the prevailing benchmark for police budgeting expectations.

The table and graph below are the percentage comparisons for the Lower Windsor Township Police Department from 2021 through the estimated budgets into 2024.

# Percentage Comparison Personnel to All Other Police Expenditures



YEAR	Personnel %	ALL Other %
2020	89%	11%
2021	89%	11%
2022	88%	12%
2023	85%	15%
2024	86%	14%

The chart and accompanying table illustrate the proportion of personnel expenditures relative to all other police-related expenses for Lower Windsor Township from 2020 through 2024. Over this five-year period, personnel costs consistently represent the dominant share of the department’s operating budget, ranging from a high of 89% in 2020 and 2021 to a low of 85% in 2023.

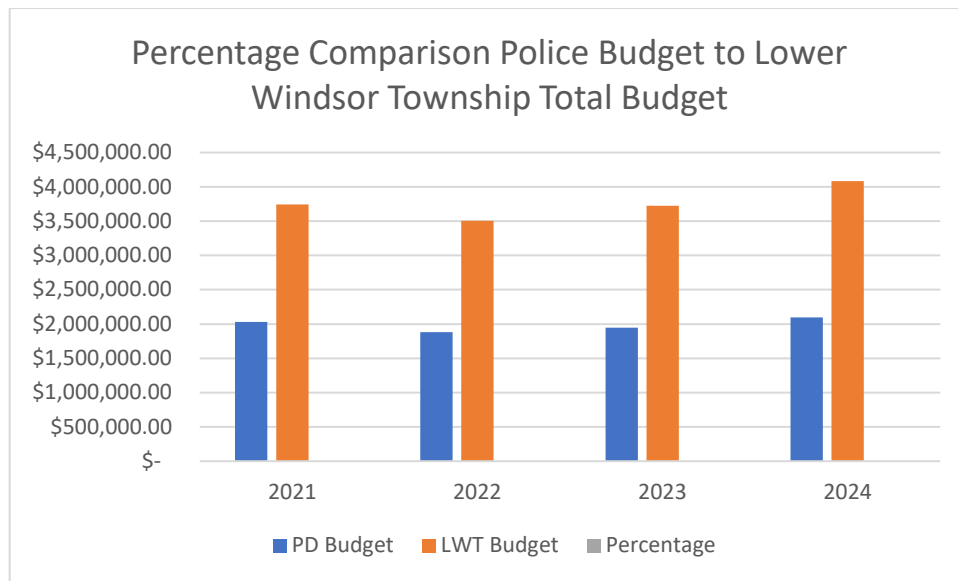
While total budget allocations have increased over time, the personnel-to-non-personnel ratio has remained generally stable and within accepted industry benchmarks. Notably, 2023 reflects a temporary shift toward a higher percentage of “all other” expenses, increasing to 15%, before returning closer to historical norms in 2024 with personnel costs at 86%.

Overall, the data indicates that Lower Windsor Township’s police expenditures align with prevailing police budgeting standards, with personnel expenses comprising the majority of costs. The modest year-to-year fluctuations suggest normal operational and capital cost variations rather than structural budgetary concerns.

# Percentage of Police Budget

Across the Commonwealth and nationwide, municipalities allocate revenues based on local priorities, community needs, and varying levels of service delivery. As a result, no single industry standard exists for the percentage of a municipal budget that should be dedicated to police services. Determining an appropriate funding level is a policy decision that rests with municipal leadership and should reflect the community’s expectations, service demands, and public safety objectives.

The percentage of the police department’s budget of Lower Windsor Township’s General Fund is shown in the chart and table below. It is consistently over 50%.



YEAR	PD Budget	LWT Budget	Percentage
2021	\$ 2,031,104.00	\$ 3,744,582.00	54%
2022	\$ 1,881,122.00	\$ 3,506,025.00	54%
2023	\$ 1,948,580.00	\$ 3,725,397.00	52%
2024	\$ 2,095,948.00	\$ 4,083,530.00	51%

It should be noted that higher allocations are not inherently problematic if they align with community safety demands, crime trends, resident expectations and overall fiscal health.

# Current Police Statistics of the Municipality

(Sources: 2024 DCED Municipal Surveys, 2020 U.S. Census, Penn Dot, 2024 FBI Uniform Crime Reports)

<b>CATEGORY</b>	<b>Lower Windsor Township</b>
Population (2020 U.S. Census)	7,547
% of Total Population	100%
% of PD Expenditures	100%
Total Police EXPENDITURES (2024)	\$2,013,968
Per Officer Cost (2024)	\$201,397
Per Capita Cost (2024)	\$267
# of Households	2,749
Median Household Income	\$79,056
Square Miles (sm)	25
Pop Density per sm	302
Road Miles (2025 Penn Dot)	115.5
Part 1 Crimes – 8 Major Crimes (2024 UCR)	46
Part 2 Crimes – All Other Crimes (2024 UCR)	402
Total Crimes (2024)	448
Crime Rate per 1,000 Persons	59
PD Incidents (2024)	2,650
IACP Estimated Incidents	4,151
Full-Time Officers	10
Part-Time Officers	0
Officers per 1,000 Persons	1.3
Police Clerical Staff	2
Police Vehicles	9

## Crime Statistics and Incident Information

There are several methods of measuring and evaluating crime in a community. The most common and universal is participation in the FBI Uniform Crime Reporting System (UCR). The UCR's establish a standardized method of collecting and categorizing crime information. The primary objectives of the Pennsylvania Uniform Crime Report (UCR) Program are to inform the Governor, Legislature, other government officials, and the public concerning the crime problem in Pennsylvania and to provide law enforcement administrators with reliable crime statistics for administrative and operational purposes.

Although not designed to be used to compare one agency against another, many police departments do use the UCR's as a benchmarking process and compare their crime rate with that of other similar communities. A high or low crime rate by itself is not a valid tool to measure the effectiveness of a police department, but it may be used to help determine the number of police officers, or other positions, needed in a community. The FBI cites several factors that affect the crime rate in any municipality. These factors include:

- Population density and age or degree of infrastructure and buildings.
- Composition of population, including number of youth or elderly people.
- Economic conditions including median income and employment.
- Cultural conditions including educational, religious, and recreational.
- Citizens' attitudes toward crime and police.
- Law Enforcement staffing and operational capabilities and considerations.
- Administrative, patrol or investigative emphasis of the police department.
- Crime reporting practices of the citizens and the police department.
- Regional transportation and traffic related concerns.

For the year 2024, the department reported their crime statistics via the Pennsylvania Uniform Crime Reporting System (UCR) and are listed in the chart below. Under the UCR system, serious crimes, or Part 1 crimes, include the eight major offenses of Murder, Rape, Robbery, Aggravated Assault, Burglary, Theft, Auto Theft, and Arson. All other offenses, such as DUI's, Simple Assaults, some Retail Thefts, Vandalism, Liquor Law Violations, Drug Offenses, Fraud, Disorderly Conduct, etc. are classified as Part 2 crimes under the federal and state Uniform Crime Reporting systems. The chart below contains the total number of reported crimes in the municipality in 2024.

<b>Police Department</b>	<b>Part 1 Crimes</b>	<b>Part 2 Crimes</b>	<b>Total Crimes</b>	<b>Crime Rate per 1,000 Persons</b>
<b>Lower Windsor Township</b>	<b>46</b>	<b>402</b>	<b>448</b>	<b>59</b>
<b>East Prospect Borough</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>46</b>	<b>402</b>	<b>448</b>	<b>59</b>

## **Determining Police Staffing Using the IACP Formula**

The formula used by the GCLGS to determine police personnel needs was developed by the International Association of Chiefs of Police (IACP). The procedure has been used and applied extensively throughout the Commonwealth by GCLGS and found to be very reliable. However, like most situations where an overall standard is applied to a unique and specific set of circumstances, it is subject to error and should not be considered infallible.

The IACP formula is applied on the assumption that 45 minutes is the time necessary to handle the average police incident. Serious crimes, especially those involving an arrest or prolonged investigation, take considerably longer, but minor incidents may take much less time to resolve; therefore, the 45-minute number has been found to be a reliable average. It is recommended that only one-third of an officer's duty time be taken up with the response to incidents.

An officer needs time to handle equipment service, court appearances, and administrative duties and additional time to conduct his or her preventative patrols to help ensure the safety and well-being of the entire community. This formula adds a "buffer factor" to account for those needs. It should be noted that an officer in a small department needs more administrative time since they are usually responsible for more record-keeping tasks than their counterparts in larger departments who have more support staff for those functions. Additionally, no factors are introduced into this formula to account for incidents needing or requiring more than one officer.

This formula recognizes that each officer is available for duty only 1,702 hours per year when regular days off, vacation, holidays, sick leave, training time, and court time are considered. This number can be influenced by several external factors and should be evaluated periodically to ensure accuracy.

When applied, the IACP formula's calculations only determine the number of uniformed patrol officers who would be assigned "on the street" and needed to handle calls and incidents. It does not include administrators, supervisors, detectives, or any other required specialist positions that may be necessary to perform departmental duties.

## IACP Staffing Formula Breakdown

The following is a step-by-step description of the IACP formula with the applicable numbers displayed in the tables below. This follows the formula's description to arrive at its projected numbers.

**Step 1** - Determine the number of complaints or incidents received and responded to by the police department. **Complaints or incidents include all forms of police activity where an officer responded and/or took official action, including the filing of an incident report.** These incidents do not include situations where information was given over the telephone, delivering messages, handling internal police matters, routine patrols, foot patrols, etc. In most cases a department Record Management System incident number would be assigned, and a police report would be written or otherwise documented by the officer after the incident has been completed.

**Step 2** - Multiply the total number of incidents by .75 (45 minutes) depending on the type and number of incidents. It is generally conceded that 45 minutes is the average time required to handle an incident in departments with a somewhat higher number of crimes or serious incidents, or with a lesser number of officers and clerical support staff available. In this case, 45 minutes should be a reliable number on which to calculate the number of officers required.

**Step 3** - Multiply by 3 to add a buffer factor and time for preventive patrol. General experience has shown that about one third of an officer's time should be spent on handling requests for service. Other requirements that include servicing police vehicles and equipment, personal relief, eating, and administrative duties must be taken into consideration. Time must also be allotted for patrol.

**Step 4** - Divide the product by 2,920 - the total number of hours necessary to staff one basic patrol unit for one year (365 X 8 hours = 2,920). The result of applying the IACP formula establishes the number of patrol units necessary to police the community (not the number of officers, but the number of units). To determine the number of officers required to staff each patrol unit, the assignment/availability factor must be determined. This is accomplished by determining how many hours the average patrol officer is not available for duty on the street and subtracting that time from the patrol hours of 2,920.

**Step 5** - Once the total available hours of the average patrol officer are established at 1,720, the assignment/availability factor is determined by dividing the available hours into the yearly patrol unit requirement of 2,920 hours. This results in a factor of 1.7. In other words, it takes 1.7 police officers to staff each patrol unit required to correctly police the community. This does not include administrators, supervisors, investigators, or other specialists, **only patrol personnel**. Staffing needs can also be estimated by using formulas based on calls for service, if higher than average, along with crime statistics. However, to support a police department that can provide a minimum of two to four officer coverage for 24 hours each day, the staffing analysis in this study includes a suggested total complement of 9 full-time officers. It is noted that LWTPD is currently staffed at 10 officers (including the SRO).

## Average Breakdown Officer's "Unavailable Hours"

Category	Annual Unavailable Hours/Days
Regular Days Off (2 per week)	<b>832 (104 Days)</b>
Vacation	<b>144 (18 Days)</b>
Holidays & Personal Days	<b>112 (14 Days)</b>
Training	<b>40 (5 Days)</b>
Court	<b>32 (4 Days)</b>
Sick Leave	<b>24 (3 Days)</b>
Miscellaneous Leave	<b>16 (2 Days)</b>
<b>TOTAL</b>	<b>1,200 (150 Days)</b>

(2,920 Hours minus 1,200 Unavailable Hours = 1,720 Available Hours)

# Recommended Police Staffing Lower Windsor Township Police Department

(Using the IACP Formula by Population and by Reported Incidents)

IACP Officer Staffing Formula by POPULATION & by PD INCIDENTS	By Population	By PD Incidents
Population (2025 provided by the municipalities & 2020 U.S. Census updates)	<b>7,547</b>	-----
# of Incidents (IACP @ 7,547 Population x .550 = 4,151; or PD Incidents = 2,650)	<b>4,151</b>	<b>2,650</b>
Time Spent on Incidents; 45 Minutes average (Multiply above by .75)	<b>3,113</b>	<b>1,988</b>
Buffer Time (Multiply above by 3 for Patrol time, Incidents, and Admin time)	<b>9,339</b>	<b>5,964</b>
Staffing Hours (Divide above by 2,920 for 1 Officer; 365 x 8 = 2,920 Hours)	<b>3.2</b>	<b>2.04</b>
Available Hours (Multiply above by 1.720 for the number of Patrol Officers)	<b>5.5</b>	<b>3.5</b>
<b>REQUIRED OFFICERS (Minimum Required Police Officers per the IACP Formula)</b>	<b>6</b>	<b>4</b>
<b>Required Officers:</b>	<b>6</b>	<b>4</b>
<b>Additional Officers: (Investigations, Traffic, Additional Patrol)</b>	<b>1</b>	<b>1</b>
<b>Patrol Sergeants: IACP: 1 Sergeant for 4 - 7 Officers (DCED Proposed Ratio is 1:6)</b>	<b>1</b>	<b>1</b>
<b>Lieutenant: Patrol, Investigations, Schedule, Vehicle &amp; Equipment Management</b>	<b>0</b>	<b>0</b>
<b>Chief of Police: Admin/Management, Supervision, Budget, Grants, Meetings, etc.</b>	<b>1</b>	<b>1</b>
<b>Total Officers</b>	<b>9</b>	<b>7</b>

It should be noted that the IACP formula does not include the School Resource Officer (SRO).

## Patrol Deployment and Staffing

Effective patrol deployment follows proper personnel allocation and focuses on organizing and assigning officers to meet service demands efficiently. Deployment strategies should prioritize matching staffing levels to workload fluctuations, such as calls for service (CFS), while considering officer wellbeing. Key considerations include shift lengths, scheduling patterns, and empirical evidence on their impacts.<sup>1</sup>

## Shift Scheduling Overview and Empirical Insights

Shift lengths commonly range from 8, 10, or 12 hours, each with trade-offs. A Police Foundation study funded by the National Institute of Justice examined these options in the Arlington, TX, and Detroit, MI, police departments over six months, assessing performance, health, stress, quality of life, and fatigue.<sup>2</sup> Findings indicated no optimal length: alertness declined with longer shifts, but 10-hour shifts offered quality-of-life benefits, such as compressed workweeks. Preferences varied demographically with younger, unmarried officers favored longer shifts for more days off, while older, married officers preferred shorter ones. Departments must balance operational needs with officer quality of life, avoiding disruptive rotations (e.g., alternating day/night hours) and favoring steady days off, particularly weekends, to enhance satisfaction.

Workload analysis, incorporating demand patterns and saturation indices (measuring resource utilization relative to CFS volume), informs optimal staffing. This approach ensures resources peak during high-demand periods (e.g., afternoons/evenings) and minimize during low-demand times (e.g., early mornings), forming the basis for department-wide scheduling.

## Eight-Hour Shift Model

Common in mid-Atlantic and northeastern U.S. departments, this model divides the day evenly into three shifts. However, it can lead to inefficiencies, such as inadequate supervision. For instance, in the illustrative Anytown Police Department (ATPD) example - a fictitious midsize agency with three sergeants and 16 officers per shift, weekend supervision was absent, and rotating hours disrupted staff. Recommendations include ensuring continuous supervision, minimizing rotations, and aligning shifts with demand, especially for seasonal peaks like summer weekends.

---

<sup>1</sup> McCabe, J. E., O'Connell, P. E., Long, D., & Rasor-Cordero, C. (2024). *Understanding police operational performance*. Routledge.

<sup>2</sup> Amendola, K. L., Weisburd, D., Hamilton, E. E., Jones, G., & Slipka, M. (2011). *The Impact of Shift Length on Policing Performance: Health, Quality of Life, Sleep, Fatigue, and Extra-Duty Employment*. National Institute of Justice.

## Twelve-Hour Shift Model

The most prevalent U.S. model, it reduces annual workdays (under 182 vs. 260 in a five-day week), increases daily officer availability, and fosters unity of command. Drawbacks include fixed staffing against variable demand, creating surpluses/shortages, and potential "silo" effects from isolated squads.

In the ATPD example, a basic four-squad configuration (requiring four sergeants and evenly distributing 16 officers) provides uniform coverage but mismatches demand:

Squad	Shift	Sgt.	PO	Total
A	0600-1800	1	4	5
B	1800-0600	1	4	5
C	0600-1800	1	4	5
D	1800-0600	1	4	5

To address this, an overlap variant adds two squads (noon to midnight), redistributing personnel for peak coverage (20 officers during high demand, reducing to 4 during lows) while using the same resources:

Squad	Shift	Sgt.	PO	Total
A	0600-1800	1	3	4
B	1800-0600	1	3	4
C	0600-1800	1	3	4
D	1800-0600	1	3	4
E	1200-2400	-	2	2
F	1200-2400	-	2	2
<b>Grand Total</b>	-	4	16	20

Days off follow the Pitman rotation (bi-weekly two-day and three-day blocks, every other weekend off), yielding 84 hours bi-weekly (adjustable for 40-hour weeks). This model emphasizes supervision, demand matching, minimum staffing, steady times, limited consecutive days, weekend time off, and reduced silos.

## Ten-Hour Shift Model

Popular in western and southwestern U.S. departments, it offers fewer workdays and enhanced daily staffing but requires careful overlap design to avoid inefficiencies. Four common implementations exist: (1) three shifts with arbitrary two-hour overlaps (least efficient); (2) targeted overlaps for high CFS; (3) four shifts for 16-hours of double coverage; or (4) a "power" shift overlays on existing 8-hour or 12-hour plans.

In the ATPD four-squad example (shifts: 0600 - 1600, 1000 - 2000, 1600 - 0200, 2000 - 0600), double coverage occurs from 1000 - 0200 (high demand), single from 0200 - 1000 (low demand). Rotations are four days on/three days off, fixed weekly. Minimum efficient staffing: six sergeants and 28 officers (seven per squad, four working/three off daily) to balance coverage. Inefficient rotations (e.g., overlap for non-operational training) should be avoided; prioritize demand over convenience.

Hour Range	Squads Working	Total Teams
0200-0600	1	1
0600-1000	1	1
1000-1600	2	2
1600-2000	2	2
2000-0200	2	2

## Conclusion and Best Practices

Patrol deployment should use workload-based models, adhering to the "Rule of 60": allocate approximately 60% of sworn personnel to patrol and limit committed time to approximately 60% of availability. Illustrations like ATPD demonstrate how 12-hour and 10-hour models can optimize resources, though smaller departments (under 28 patrol officers) risk inefficiencies with 10-hour plans. Historical reliance on ratios has shifted to data-driven approaches for fiscal accountability and performance.

## Analysis of Lower Windsor Township Police Department December 2025 Patrol Schedule

The December 2025 schedule for the Lower Windsor Township Police Department (LWTPD) was provided for examination.

This analysis evaluates the schedule against best practices for patrol deployment and staffing outlined in *Understanding Police Operational Performance* (McCabe et al., 2025), focusing on shift design, coverage efficiency, supervision, workload alignment, and potential improvements.

## Overview of Schedule Structure

- **Shift Length and Model:** Patrol operations predominantly use 10-hour shifts, aligned with one of the common U.S. models discussed by McCabe et al. (2025). Standard shifts include:
  - Day: 07:00 - 17:00
  - Swing: 11:00 - 21:00 (or variations like 09:00 - 21:00)
  - Evening: 17:00 - 03:00
  - Night: 21:00 - 07:00 This creates a staggered 4-shift configuration per platoon, generating overlaps for extended periods (typically 10:00 - 02:00, with double or triple coverage during afternoons and evenings). Administrative shifts are shorter (7 - 8 hours, e.g., 07:00 - 15:00), and the SRO operates on a consistent 06:45 - 14:45 school-aligned schedule.
- 
- **Platoon Rotation:** The schedule alternates between A and B Platoons, with some overlap days (e.g., December 5 and 12, where both platoons are partially staffed). Weekends often feature reduced administrative presence but maintain patrol coverage. Holidays (e.g., Christmas Day, December 25; New Year's Eve, December 31) show adjusted staffing, prioritizing essential patrol while granting time off.

- **Staffing Levels:** On average, 3 - 4 patrol officers are scheduled daily, plus supervision. Peak days (e.g., weekdays) may reach 6 - 8 when platoons overlap or placeholders ("Officer") are noted. Time off reduces effective strength: for instance, one officer was on sick leave for multiple extended periods (e.g., December 4 - 5, 8 - 9, 12 - 13, 15 - 19, 20 - 22, 26 - 28), potentially straining resources.
- **Time Off and Events:** Time off categories include vacation, compensatory (comp) time, sick leave, personal time, and holidays, totaling significant absences (e.g., 10 + instances across the month). Events include court appearances, trainings, meetings, and departmental activities.

## Key Strengths in Alignment with Best Practices

- **Overlap Design for Demand Matching:** The 10-hour model incorporates targeted overlaps, similar to the efficient variants described by McCabe et al. (2025), where additional shifts cover high call-for-service (CFS) periods (e.g., afternoons/evenings). For LWTPD, double coverage occurs from approximately 11:00 - 21:00 on most days, aligning with typical peak demand in small communities (e.g., school dismissal, commuter traffic, evening incidents). This avoids the inefficiencies of arbitrary two-hour overlaps in three-shift models and supports smoother shift transitions, reducing "end of shift slowdown." On overlap days like December 5, staffing doubles, potentially for anticipated workload spikes, though without CFS data, this assumes standard patterns.
- **Supervision and Unity of Command:** Consistent assignment of supervisors to swing shifts (11:00 - 21:00) ensures oversight during overlaps, fostering "tight unity of command" and better esprit de corps. Every patrol day includes at least one supervisor, addressing a key recommendation to avoid unsupervised shifts (e.g., unlike the deficient eight-hour model in the Anytown Police Department [ATPD] example).
- **Quality-of-Life Considerations:** The compressed schedule provides fewer work appearances (e.g., 4 days on/3 off implied in rotations), which empirical evidence from Amendola et al. links to improved quality of life, particularly for younger officers. Steady start/end times and weekend accommodations (e.g., reduced staffing but coverage) minimize disruptions, avoiding the health/stress issues of rotating day/night hours.
- **Holiday and Event Integration:** Coverage remains 24/7 even on holidays, with minimal gaps (e.g., Christmas Day has 4 shifts covered despite multiple time offs). Events are scheduled without apparent conflicts, supporting operational continuity.

## Recommendations for Optimization

LWTPD could enhance performance through:

**Workload Based Modeling:** Conduct a CFS analysis to refine overlaps, ensuring supply matches demand (e.g., adjust for seasonal township events like holidays).

This schedule demonstrates a practical 10-hour model suited to a small agency, with strong overlap and supervision elements, but opportunities exist to align more closely with data-driven best practices for sustained operational performance. Further data on CFS volume and community needs would refine this analysis.

## Conclusions

The cost analysis of the Lower Windsor Township Police Department (LWTPD) demonstrates a well-managed, community-oriented agency delivering essential services in a rural setting. With a per capita cost below state averages and personnel expenses within industry norms, the department operates efficiently relative to benchmarks.

Staffing evaluations using the IACP formula indicate that the current complement of 10 full-time officers is correct when it is taken into account that one of the positions is a School Resource Officer (SRO) for which the Township receives wage reimbursements. It is also noted that LWTPD provides contracted police services to East Prospect Boro (adding the population of East Prospect Boro to the IACP formula results in the same number of recommended officers). The Township receives slightly over \$60,000 annually from East Prospect Boro.

The 10-hour patrol shift model effectively aligns with demand patterns through overlaps and consistent supervision, as evidenced by the December 2025 schedule analysis. Nonetheless, opportunities for improvement exist, such as integrating calls-for-service (CFS) data to refine deployments.

In conclusion, LWTPD exemplifies professional policing tailored to Lower Windsor Township's needs, fostering trust through transparency and engagement.

The GCLGS intends that this study serve as a nonbinding tool for informed decision making.

# **DCED and Governor's Center for Local Government Services**

## **STAFF**

Richard P. Vilello, Jr., Deputy Secretary  
Community Affairs and Development

Kathy Wyrosdick, Executive Director, AICP  
Governor's Center for Local Government Services

Andrew Sheaf, Deputy Executive Director  
Governor's Center for Local Government Services

Terri Cunkle, Emergency Services Program Manager  
Governor's Center for Local Government Services

Anne Weaver Morrow, Local Government Specialist  
Governor's Center for Local Government Services  
[aweavermor@pa.gov](mailto:aweavermor@pa.gov) or 717-720-7384

Chief Nelson E. Whitney, II, Police Peer Consultant  
Governor's Center for Local Government Services

Kelly Wilson, Administrative Assistant  
Governor's Center for Local Government Services

# Notes