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DO TIME AND LOCATION MATTER IN IDENTIFYING PATTERNS OF VICTIMIZATION?

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Do Location and Time Matter?

- Routine activities approach
- Crime pattern theory
 - Opportunity theories of crime
 - Rational choice
 - Routine activities
 - Decision theory

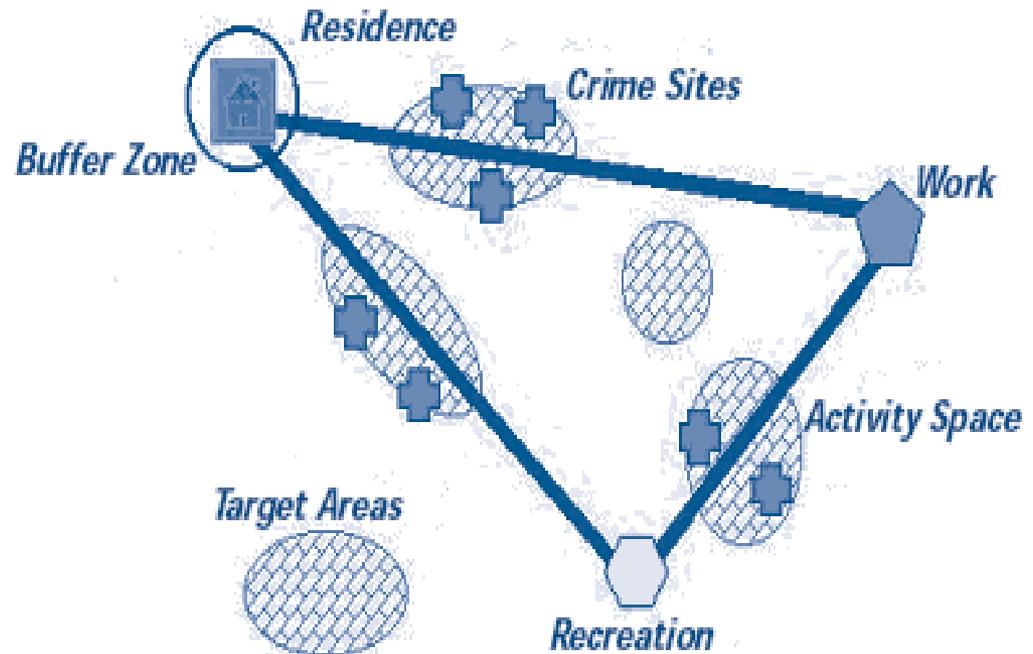
Center for Problem Oriented Policing (POP). <http://www.popcenter.org/>

Routine Activities Approach

- Devised to explain increase in prosperity and crime
- Amos Hawley's urban ecology
- Rhythm of everyday activities produces measurable regularities
 - Periodicity
 - Tempo
 - Timing
- Daily activities brings opportunity for necessary components to converge:
 - Attractive target
 - Absent guardian
 - Willing offenders
- Convergence of three = likely criminal activity

Crime Pattern Theory

- Uses opportunity theories of crime
- Crime does not occur randomly in space
- Offenders and non-offenders move about their routine daily activities, or activity space
- Potential offenders find opportunities to offend



Goal of the Analysis

Disaggregate three types of crimes by time and location to better understand spatial and temporal patterns of victimization

- Contributes to the understanding of victimization
- Provides facts that can be used to build efficient approaches to law enforcement

Data and Methods

National Incident Based Reporting System (NIBRS)
victim extracts, Years 2006-2008

Crimes against Persons

- Aggravated Assault of Youth ages 17 and below

Property Crimes

- Vandalism/destruction of property youth ages 14 and below

Crimes against society

- Prostitution

NIBRS

The NIBRS is an incident-based reporting system for crimes known to the police.

- Incident-based data provide an extremely large amount of information about crime:
 - Nature and types of specific offenses
 - Characteristics of the victim(s)
 - Offender(s)
 - Types and value of property stolen and recovered
 - Characteristics of persons arrested (if any were made)
 - Weapons information

NIBRS - Group A Offenses

1. Arson
2. Assault Offenses - Aggravated Assault, Simple Assault, Intimidation
3. Bribery
4. Burglary/Breaking and Entering
5. Counterfeiting/Forgery
6. Destruction/Damage/Vandalism of Property
7. Drug/Narcotic Offenses - Drug/Narcotic Violations, Drug Equipment Violations
8. Embezzlement
9. Extortion/Blackmail
10. Fraud Offenses
11. Gambling Offenses

NIBRS - Group A Offenses (Cont'd)

12. Homicide Offenses
13. Kidnapping/Abduction
14. Larceny/Theft Offenses
15. Motor Vehicle Theft
16. Pornography/Obscene Material
17. Prostitution Offenses - Prostitution, Assisting or Promotion
18. Robbery
19. Sex Offenses
20. Sex Offenses, Nonforcible - Incest, Statutory Rape
21. Stolen Property Offenses (Receiving, etc.)
22. Weapon Law Violations

NIBRS - Group B Offenses

1. Bad Checks
2. Curfew/Loitering/Vagrancy Violations
3. Disorderly Conduct
4. Driving Under the Influence
5. Drunkenness
6. Family Offenses, Nonviolent
7. Liquor Law Violations
8. Peeping Tom
9. Runaway
10. Trespass of Real Property
11. All Other Offenses

Only reported if there is an arrest

Status of NIBRS in the States

- 29% of the population is covered by NIBRS
- 27% of the nation's reported crime
- 32 states certified to report NIBRS to the FBI
- 3 states and the District of Columbia
 - Individual agencies submitting NIBRS
- 15 states are submitting incident-based data
 - Covers 100% of their state law enforcement agencies
- Texas:
 - 104 agencies
 - 22% of population
 - 13% of crime

NIBRS - Limitations¹

- Unit missing data
 - Not all agencies are accounted for
- Item missing data
 - Missing data
- Limitations of administrative data
 - Not collected for research purposes
- Complexity of NIBRS data
 - Several files
 - Merging them requires an understanding of data structure and research questions
- Coding errors
 - Invalid “0” or midnight incident times

¹Addington, L. 2008. Assessing the extent of nonresponse bias on NIBRS estimates of violent crime. *Journal of Contemporary Criminal Justice*, 24(32). p. 32-49.

NIBRS

Researchers do use NIBRS

Studies:

- Child prostitution
- Hate crimes
- Intimate partner violence
- Child pornography
- Time to clearance
- <http://www.icpsr.umich.edu/icpsrweb/NACJD/NIBRS/>

Property Crimes:

Vandalism

Why Vandalism?

Engaging in vandalism can indicate a higher probability of violent aggression in later life

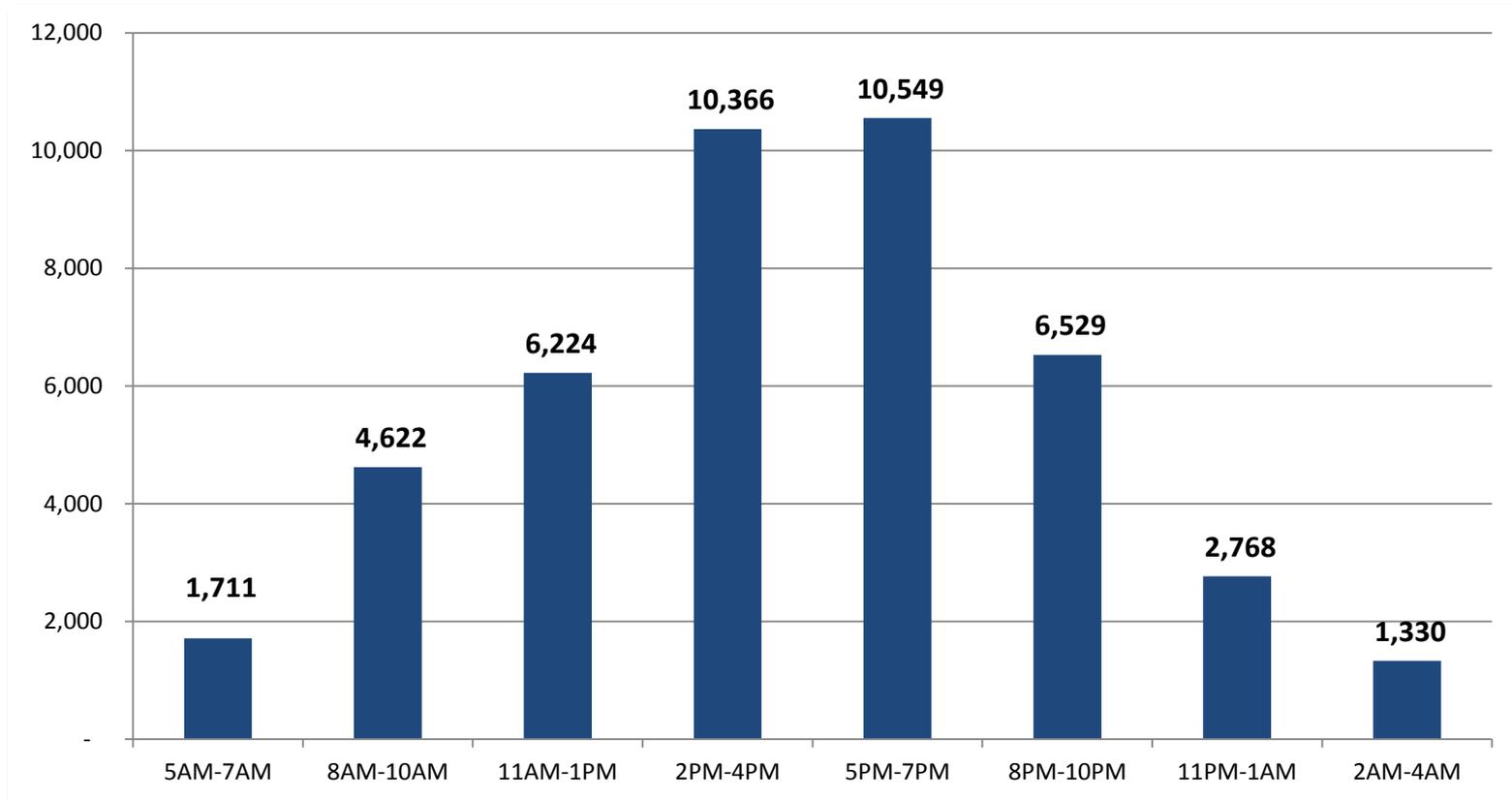
van Lier, P. C., Vitaro, F., Barker, E. D., Koot, H. M., & Tremblay, R. E. (2009). Developmental Links between Trajectories of Physical Violence, Vandalism, Theft, and Alcohol-Drug Use from Childhood to Adolescence. *Journal Of Abnormal Child Psychology*, 37(4), 481-492.

Tewksbury, R., & Mustaine, E. E. (2000). Routine Activities and Vandalism: A Theoretical and Empirical Study. *Journal Of Crime And Justice*, 23(1), 81-110.

Preventing crime earlier in life can result in huge financial savings

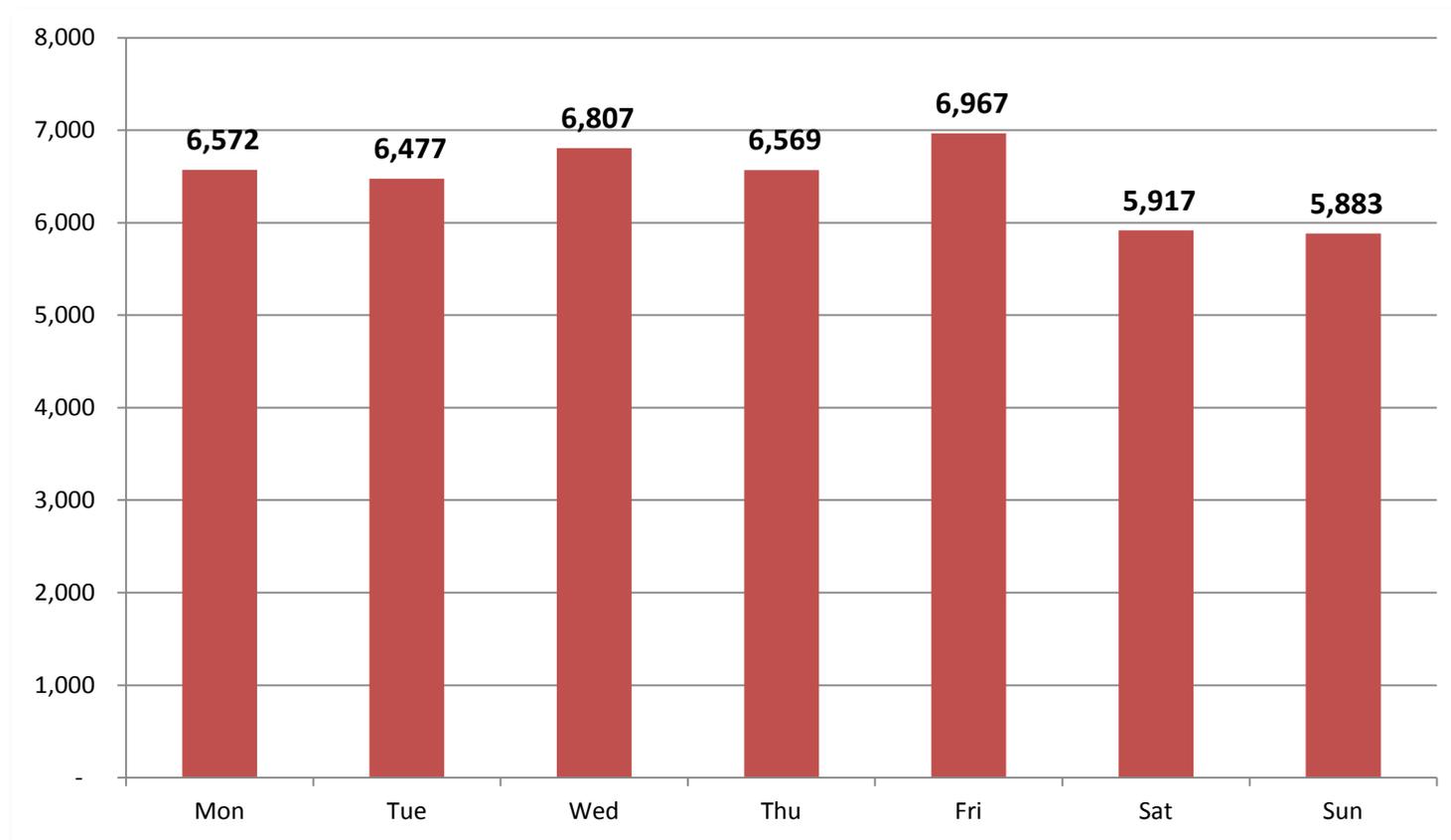
Cohen, M., & Piquero, A. 2009. New evidence on the monetary value of saving a high risk youth. *Journal of Quantitative Criminology*, 25(1), 25-49.

Vandalism by Time of Offense, 2006-2008



Source: 2006-2008 National Incident-Based Reporting System databases.

Vandalism by Day of the Week, 2006-2008



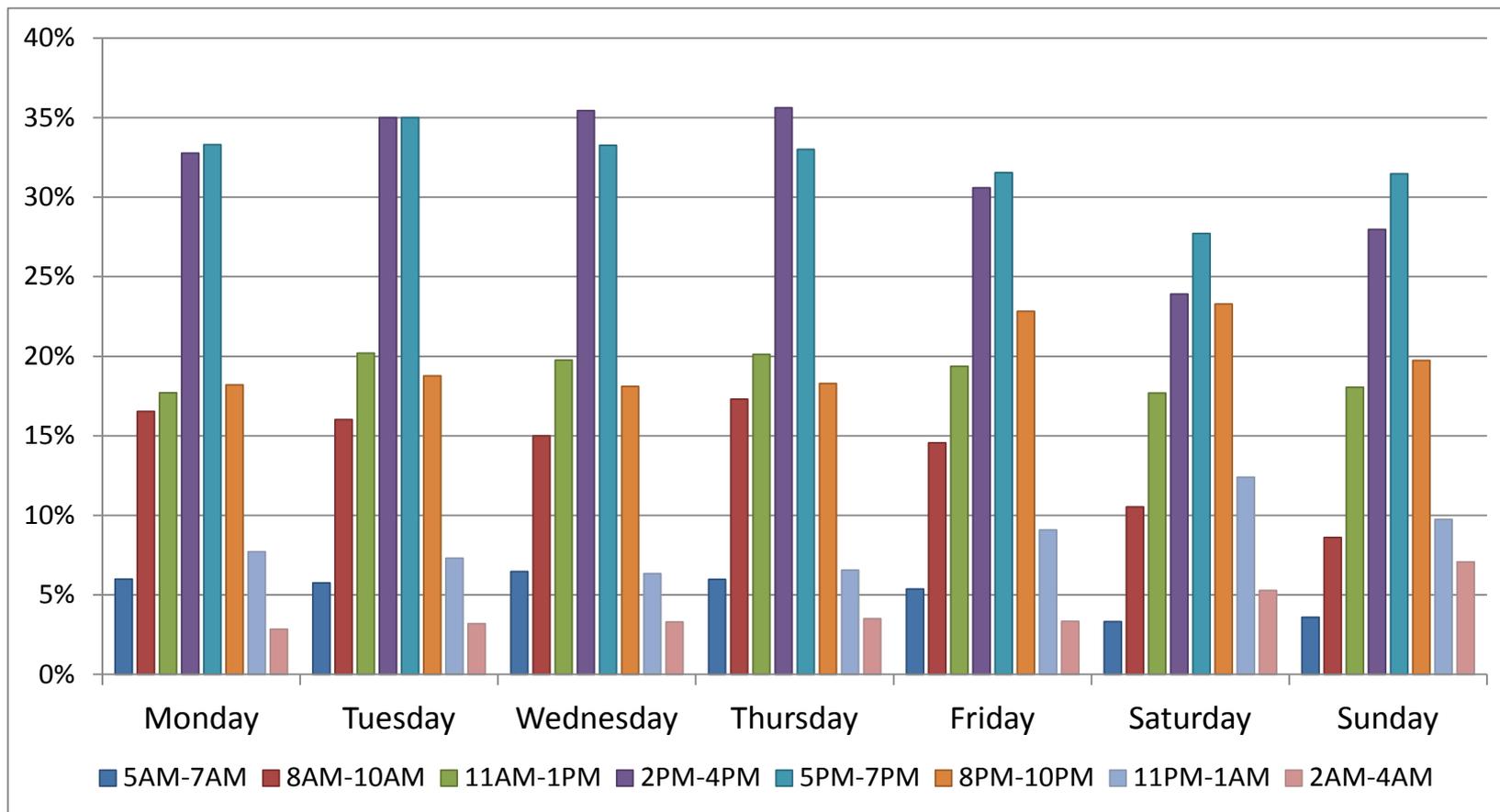
Source: 2006-2008 National Incident-Based Reporting System databases.

Vandalism by Location, 2006-2008

Location	N	%
Air/Bus/Train Terminal	74	0%
Bank/Savings and Loan	30	0%
Bar/Nightclub	44	0%
Church/Synagogue/Temple	309	1%
Commercial/Office Building	795	2%
Construction Site	267	1%
Convenience Store	146	0%
Department/Discount Store	222	1%
Drug Store/Drs. Office/Hospital	93	0%
Field/Woods	573	2%
Government/Public Building	652	2%
Grocery/Supermarket	91	0%
Highway/Road/Alley	5104	15%
Hotel/Motel/Etc.	84	0%
Jail/Prison	54	0%
Lake/Waterway	39	0%
Liquor Store	22	0%
Parking Lot/Garage	2494	7%
Rental Store. facility.	70	0%
Residence/Home	14991	44%
Restaurant	176	1%
School/College	3798	11%
Service/Gas Station	115	0%
Specialty Store (TV, Fur, Etc.)	300	1%
Other/unknown	3152	9%
Total	33695	100%

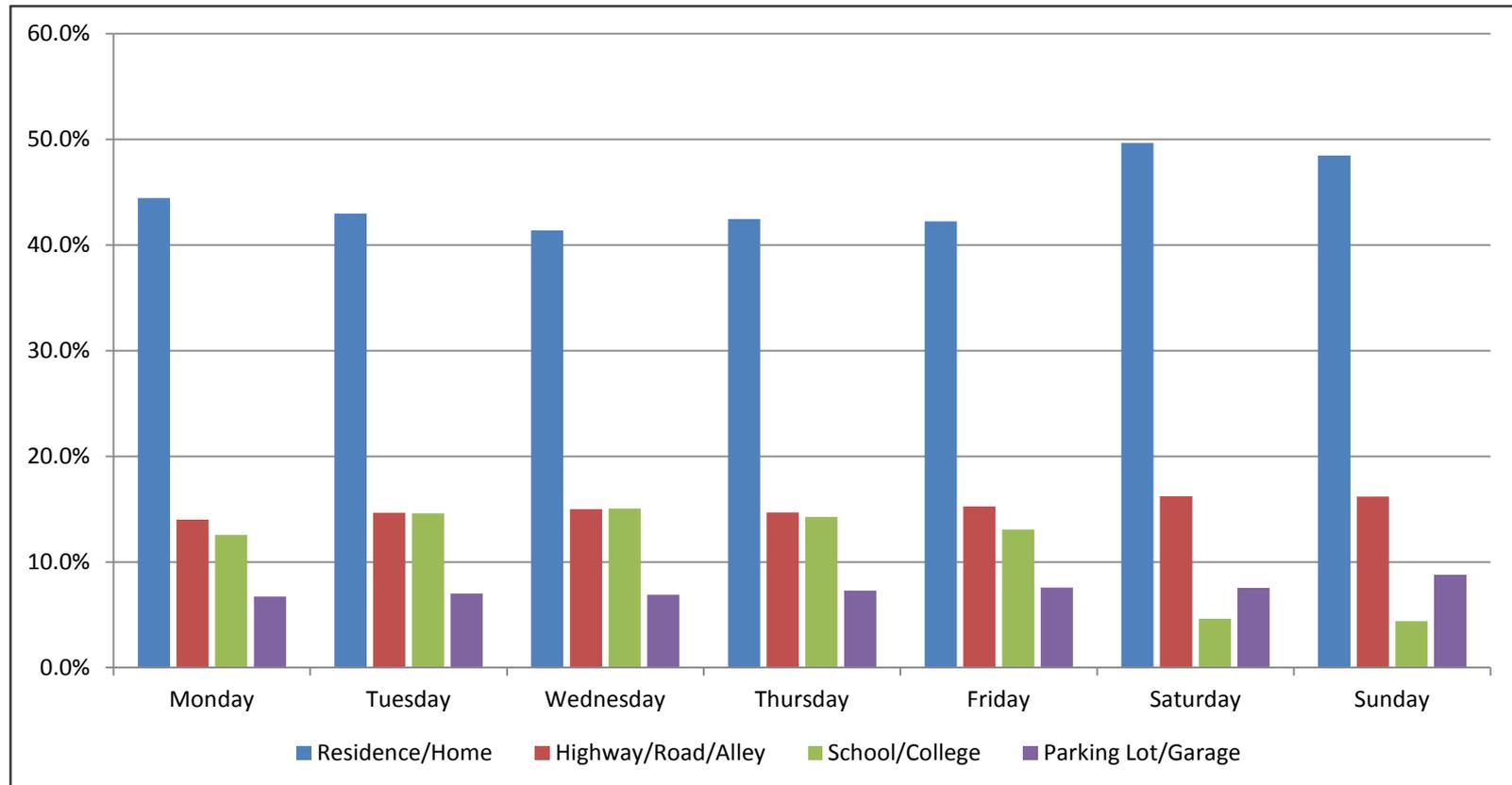
Source: 2006-2008 National Incident-Based Reporting System databases.

Vandalism by Day of the Week and Time of Day, 2006-2008



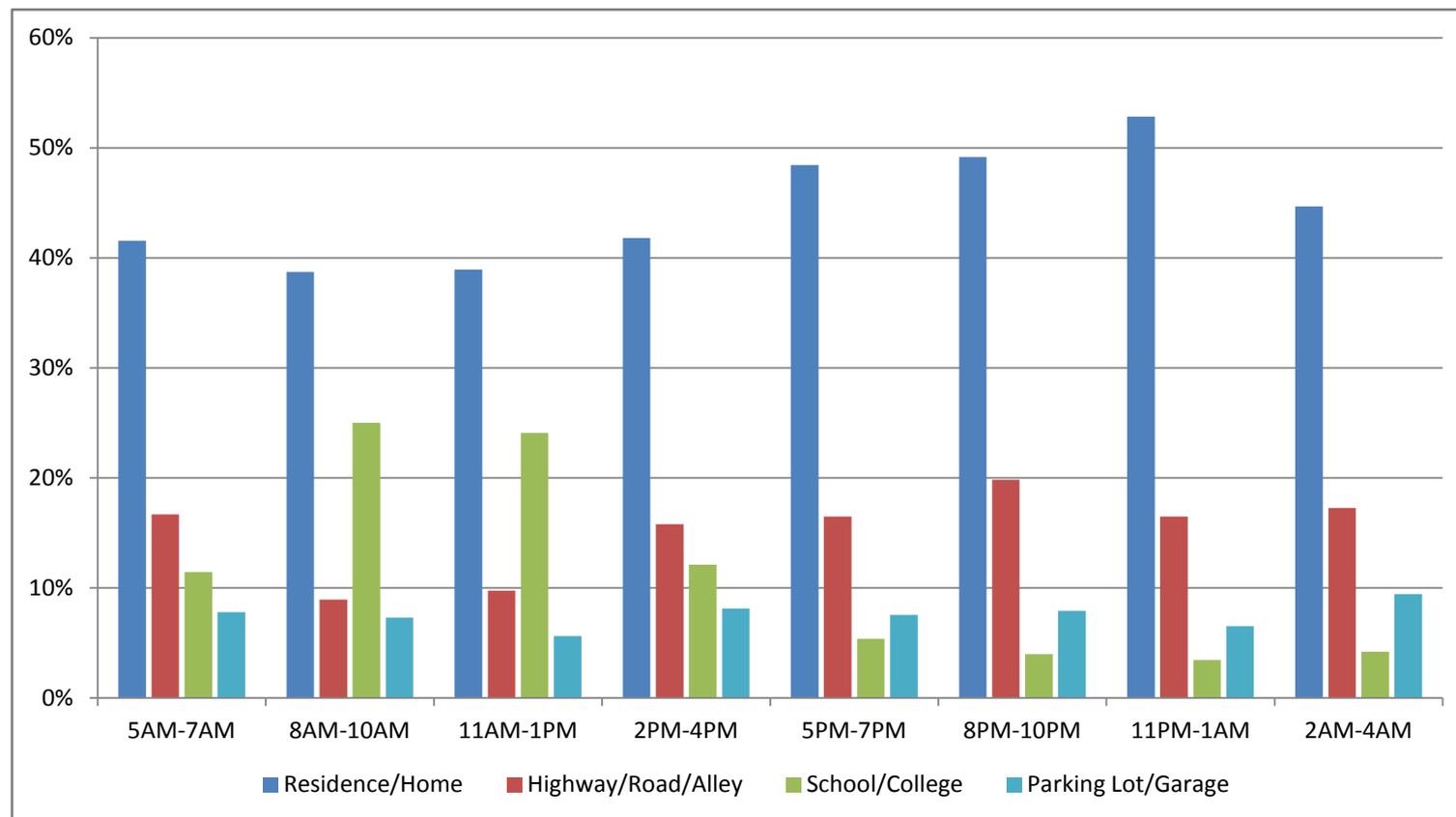
Source: 2006-2008 National Incident-Based Reporting System databases.

Vandalism by Day of the Week and Location, 2006-2008



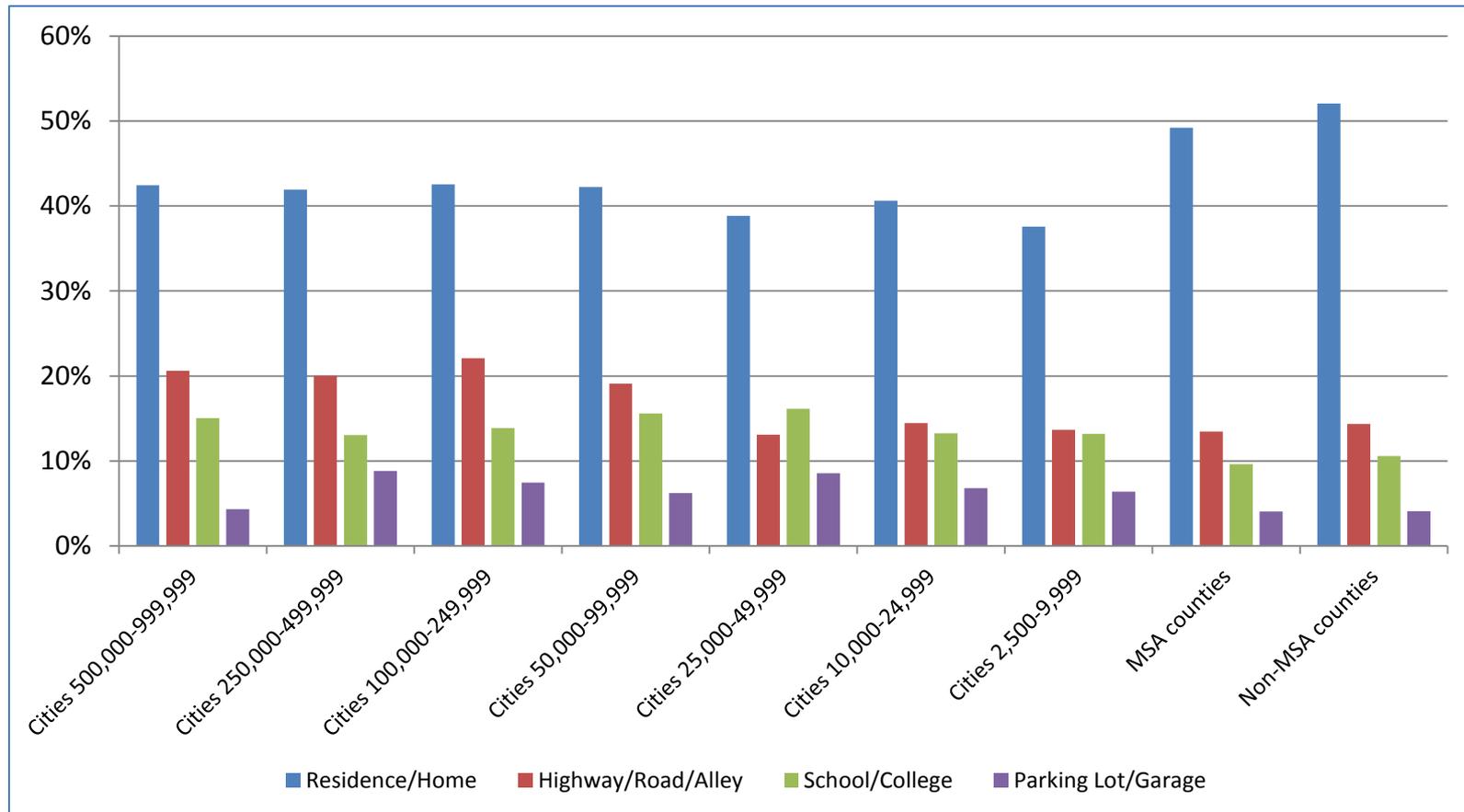
Source: 2006-2008 National Incident-Based Reporting System databases.

Vandalism by Hour of Incident and Location, 2006-2008



Source: 2006-2008 National Incident-Based Reporting System databases.

Vandalism by Population Group and Location, 2006-2008



Source: 2006-2008 National Incident-Based Reporting System databases.

Key Findings - Vandalism

- Vandalism varies significantly by time, location of incident, and city size
- Most vandalism occurs Monday - Friday
- Home/residences are the most prevalent locations for vandalism. School vandalism decreases during weekend.
- Crime during school week occurs primarily between 2 and 7 pm, but gradually tapers off towards the weekend when incident times begin to spread out.
- A much higher percentage occurs at homes/residences in MSA and Non-MSA counties
- Home/residences still important in larger cities, but schools and roadways play a bigger role

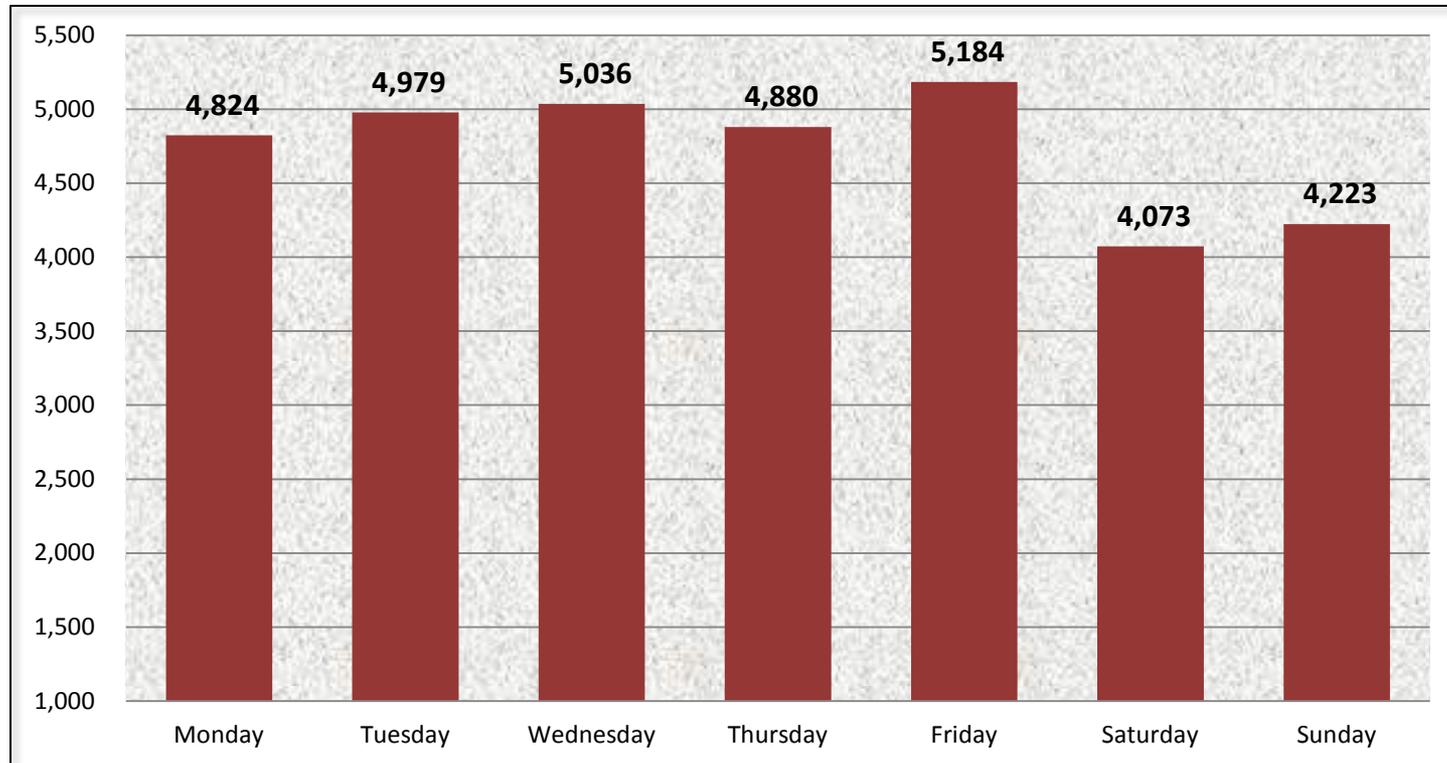
Crimes against Persons:

Aggravated Assault

Why Aggravated Assault?

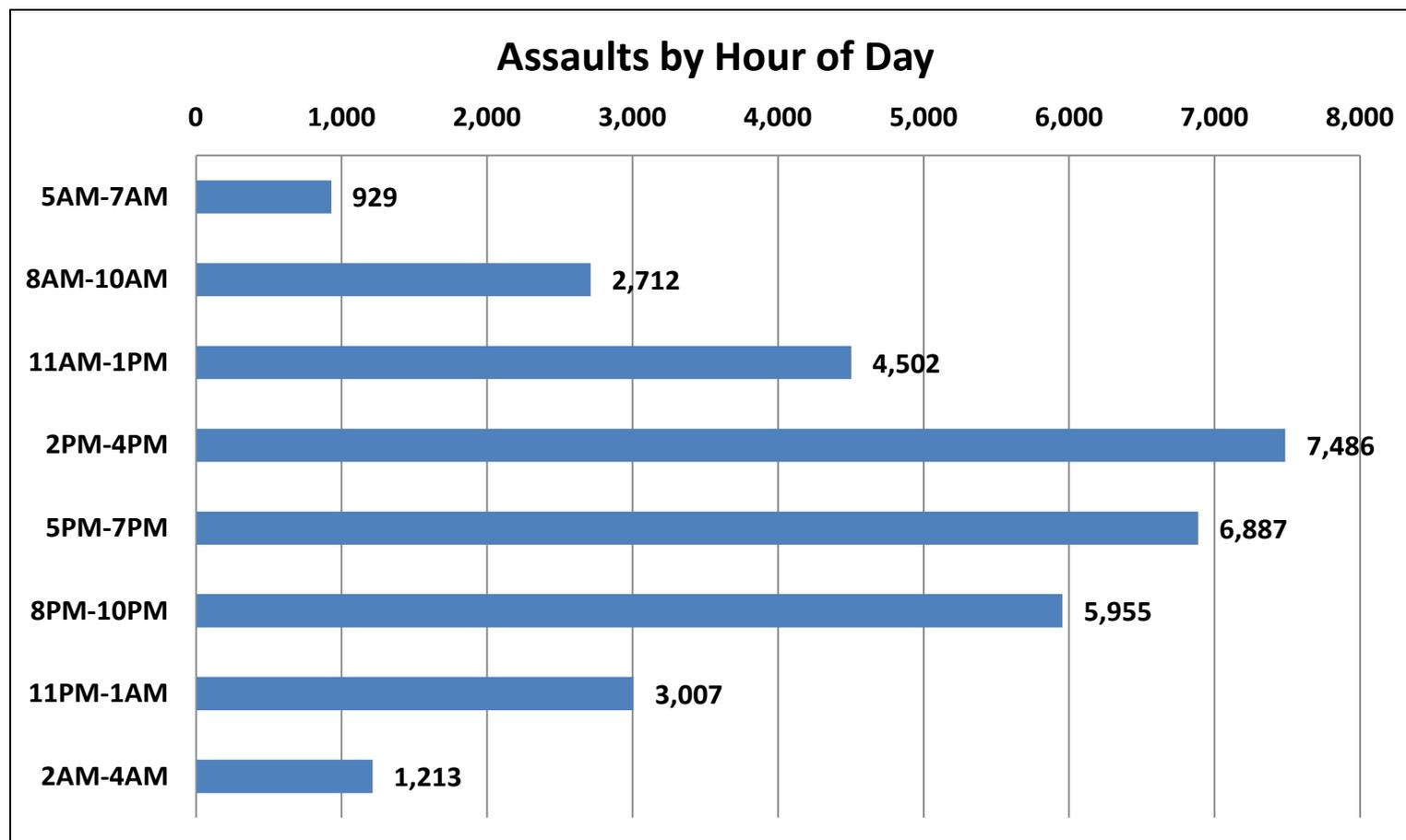
- Youth are two to three times more likely than adults to suffer aggravated assaults
- 17-year-old males have the highest homicide rates
- Homicide is the greatest risk of death for females in first year
- Youth suffer more family violence than any other group
- Offenses against youth are undercounted – probably more serious than statistics show
- Possibility that youth that suffer assault may become aggressors themselves

Aggravated Assault by Day of the Week, 2006-2008



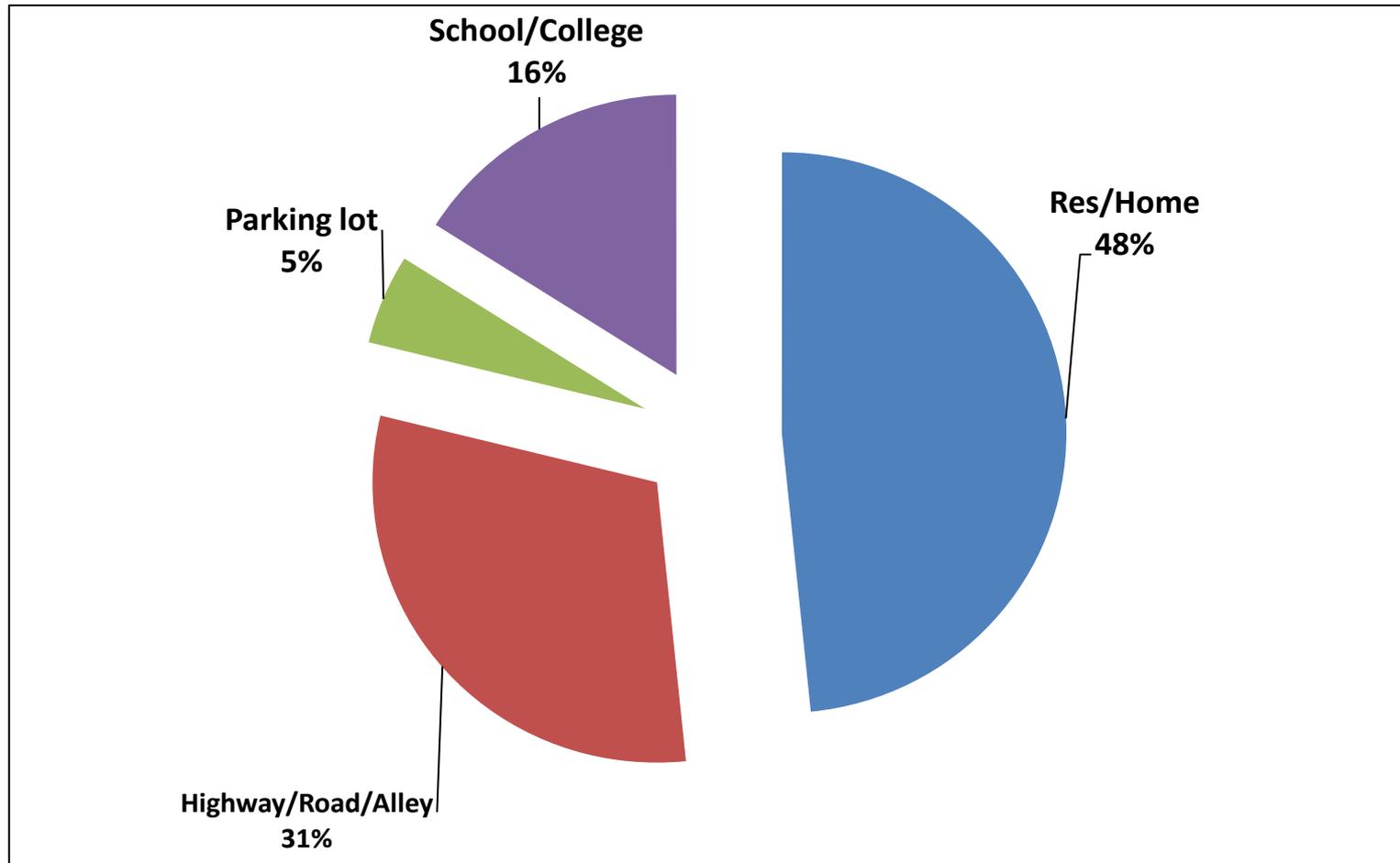
Source: 2006-2008 National Incident-Based Reporting System databases.

Aggravated Assault by Time of Day, 2006-2008



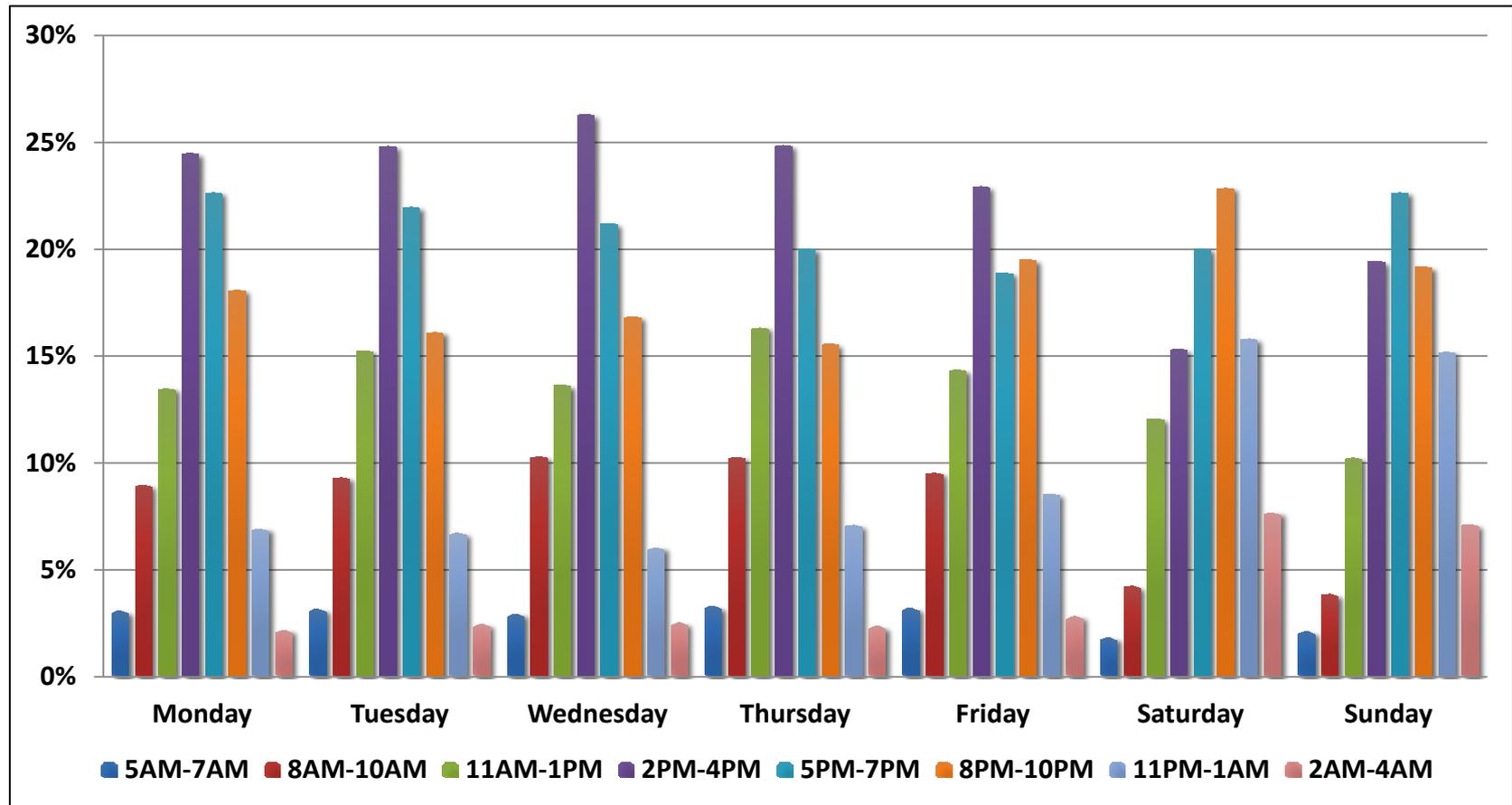
Source: 2006-2008 National Incident-Based Reporting System databases.

Aggravated Assault by Location, 2006-2008



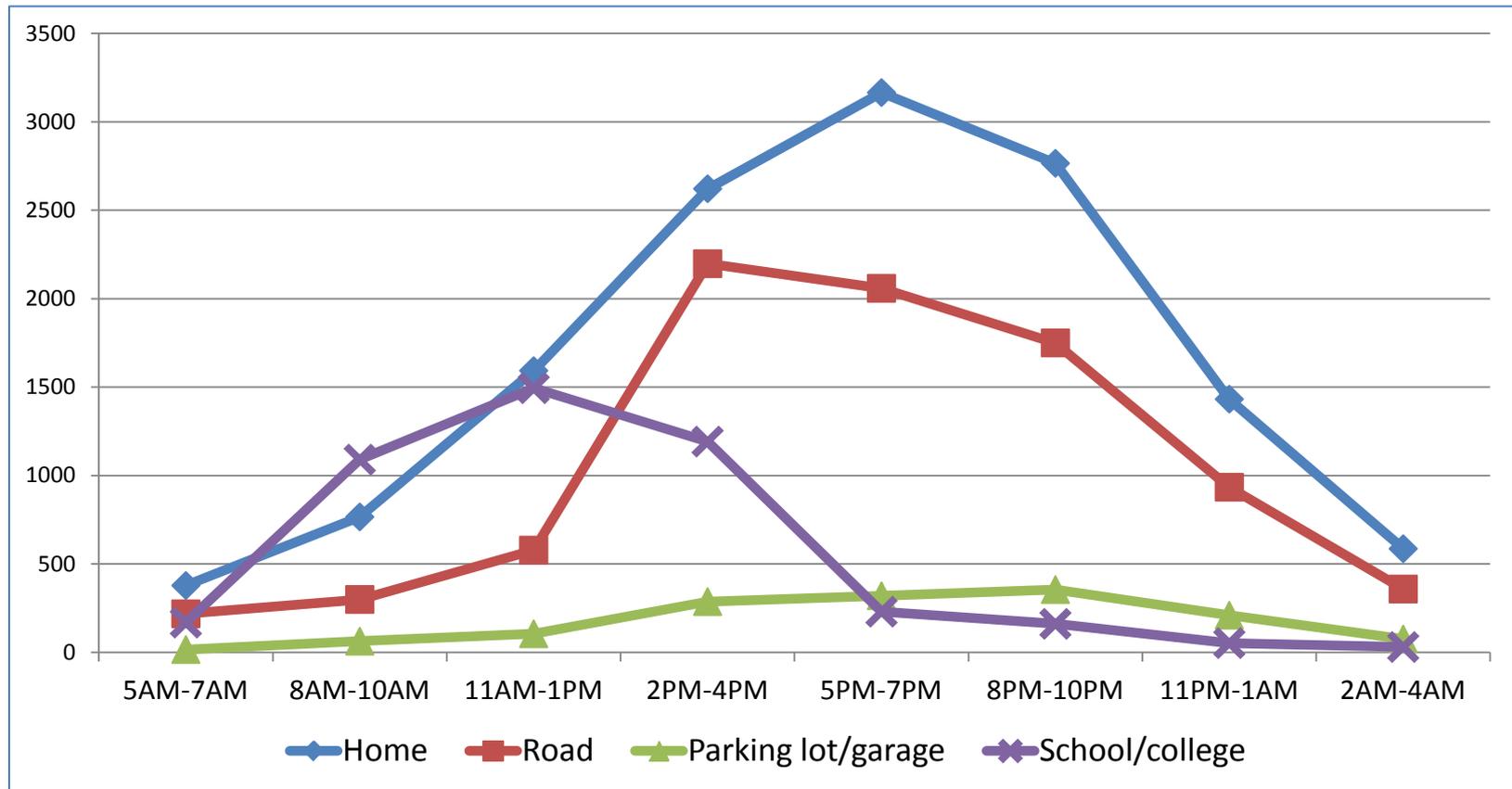
Source: 2006-2008 National Incident-Based Reporting System databases.

Aggravated Assault by Day of the Week and Time of Day, 2006-2008



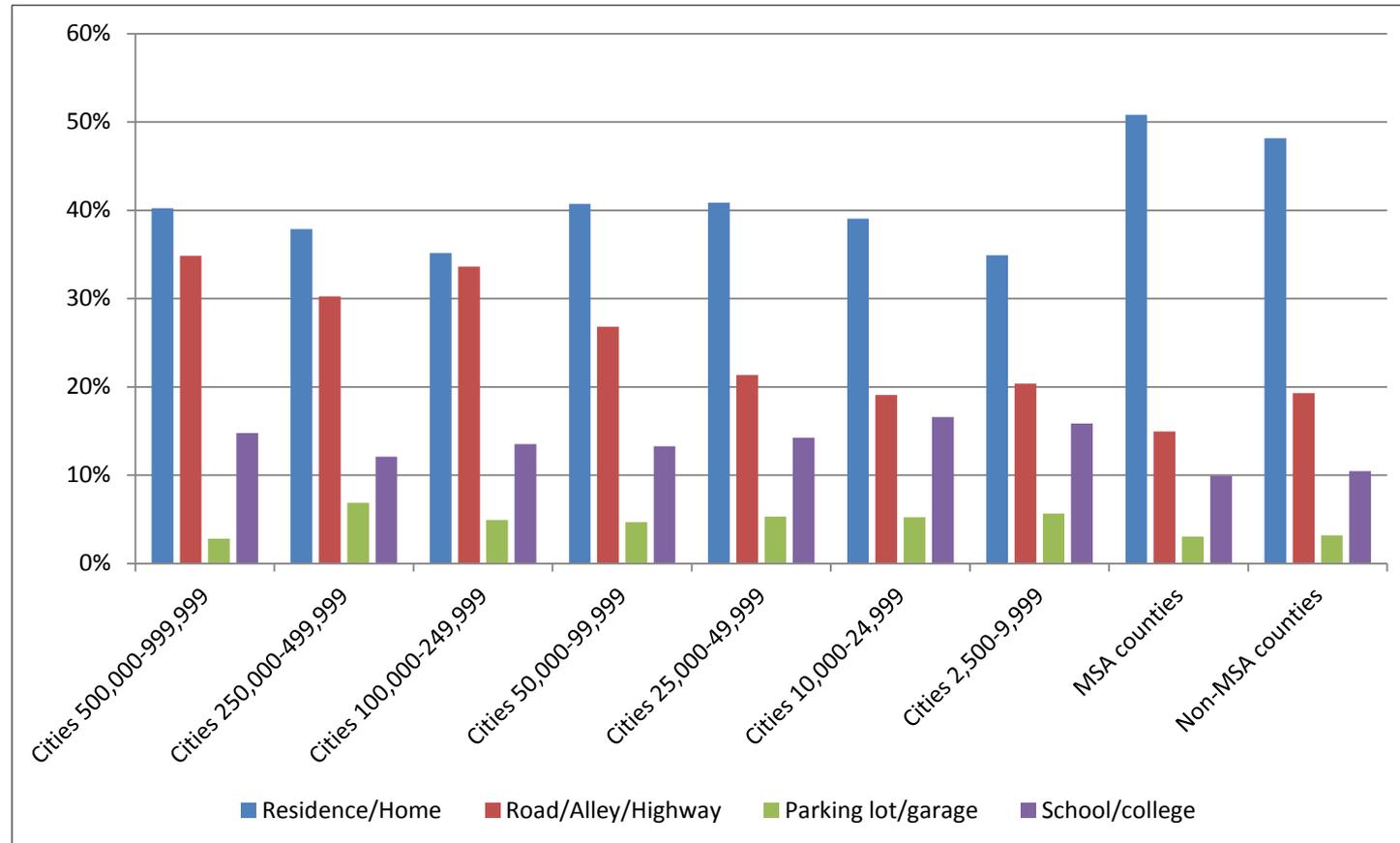
Source: 2006-2008 National Incident-Based Reporting System databases.

Aggravated Assault by Day of the Week and Location, 2006-2008



Source: 2006-2008 National Incident-Based Reporting System databases.

Aggravated Assault by Population Group and Location, 2006-2008



Source: 2006-2008 National Incident-Based Reporting System databases.

Key Findings – Aggravated Assault

Aggravated assaults of youth 17 years or less are distinctly patterned

- Most assault occurs at the home/residence and roads/highways/alleys
- During the course of an average day:
 - Very little violence early in the day, but volume increases
- Violence is highest at home/residence and school/college during mid-morning
 - Violence before school, and then during school
- After school hours, violence is highest at home/residence and roads/highways/alleys early to late evening
- Distinct differences by city size as well

Crimes against Society:

Prostitution

Why Prostitution?

- International Dimensions
- Human trafficking is one of the world's largest industries
 - Prostitution
 - Transferring or trading for recompense
 - Pornography
- The United States is a major importer and a significant transfer point for traffickers
- There are many severe consequences for prostitutes/sex workers
 - Many suffer physical and mental abuse
 - Unhealthy living conditions
 - Illness
 - Death

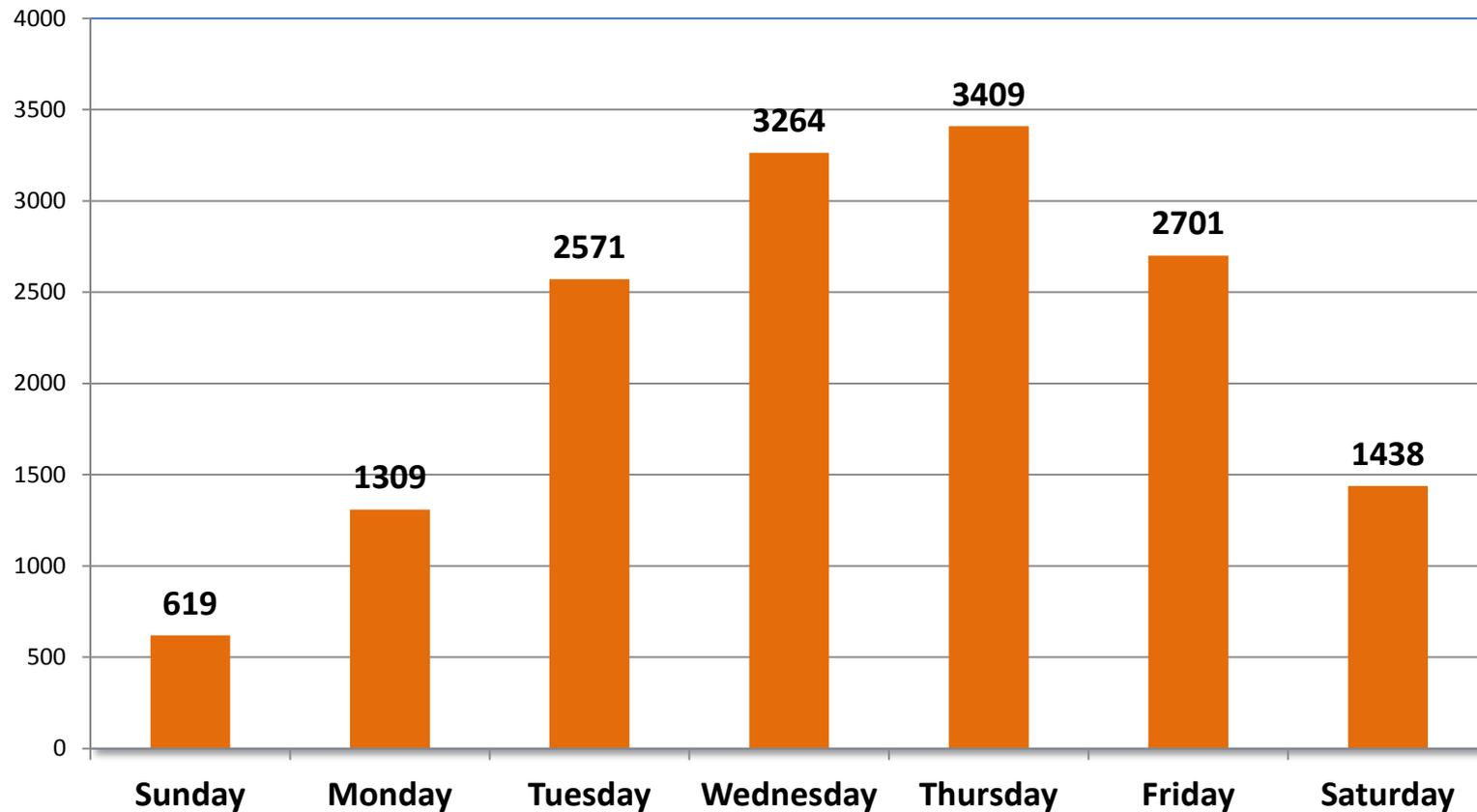
Prostitution

Limitations of NIBRS prostitution data

- Prostitution is not typically reported to police by the public
- Consequently, locations of prostitution may be more a reflection of policing practices
- Location information should be viewed with caution
- NIBRS data have been used to examine prostitution among juveniles¹

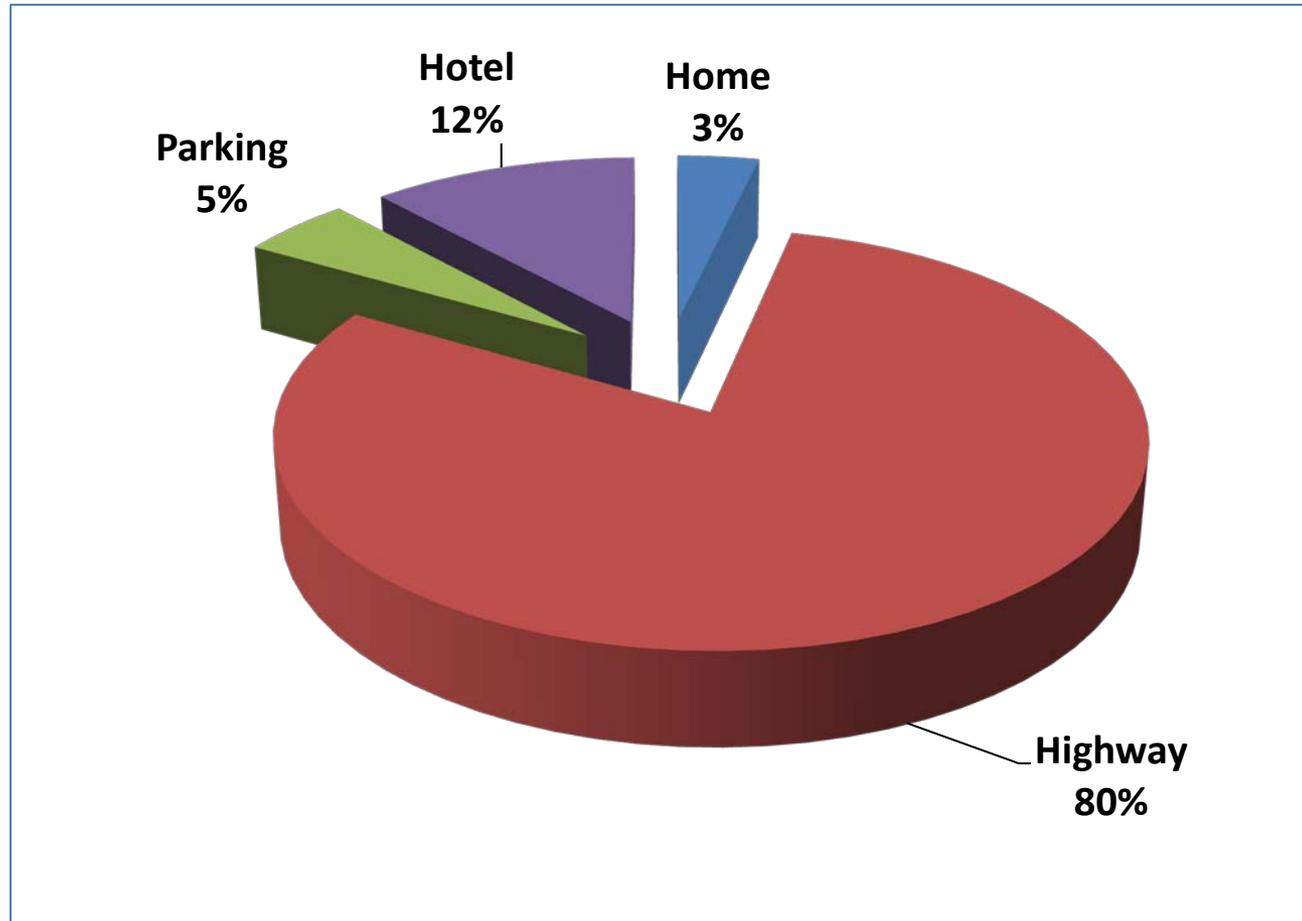
¹Finkelhor, D., & Ormrod, R. 2004. Prostitution of juveniles: patterns from NIBRS. U.S. Department of Justice: Washington D.C.

Prostitution by Day of the Week, 2006-2008



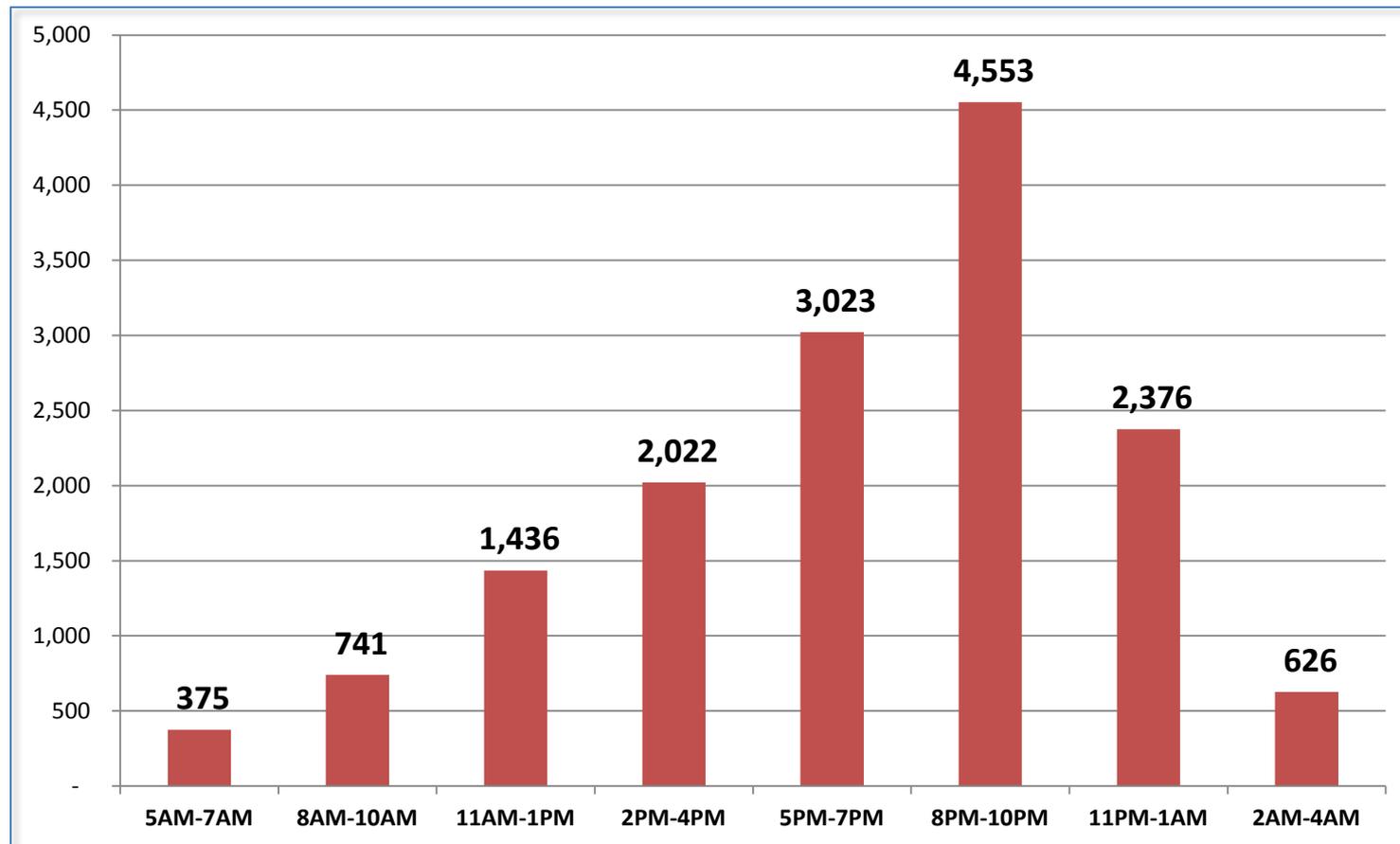
Source: 2006-2008 National Incident-Based Reporting System databases.

Prostitution by Location, 2006-2008



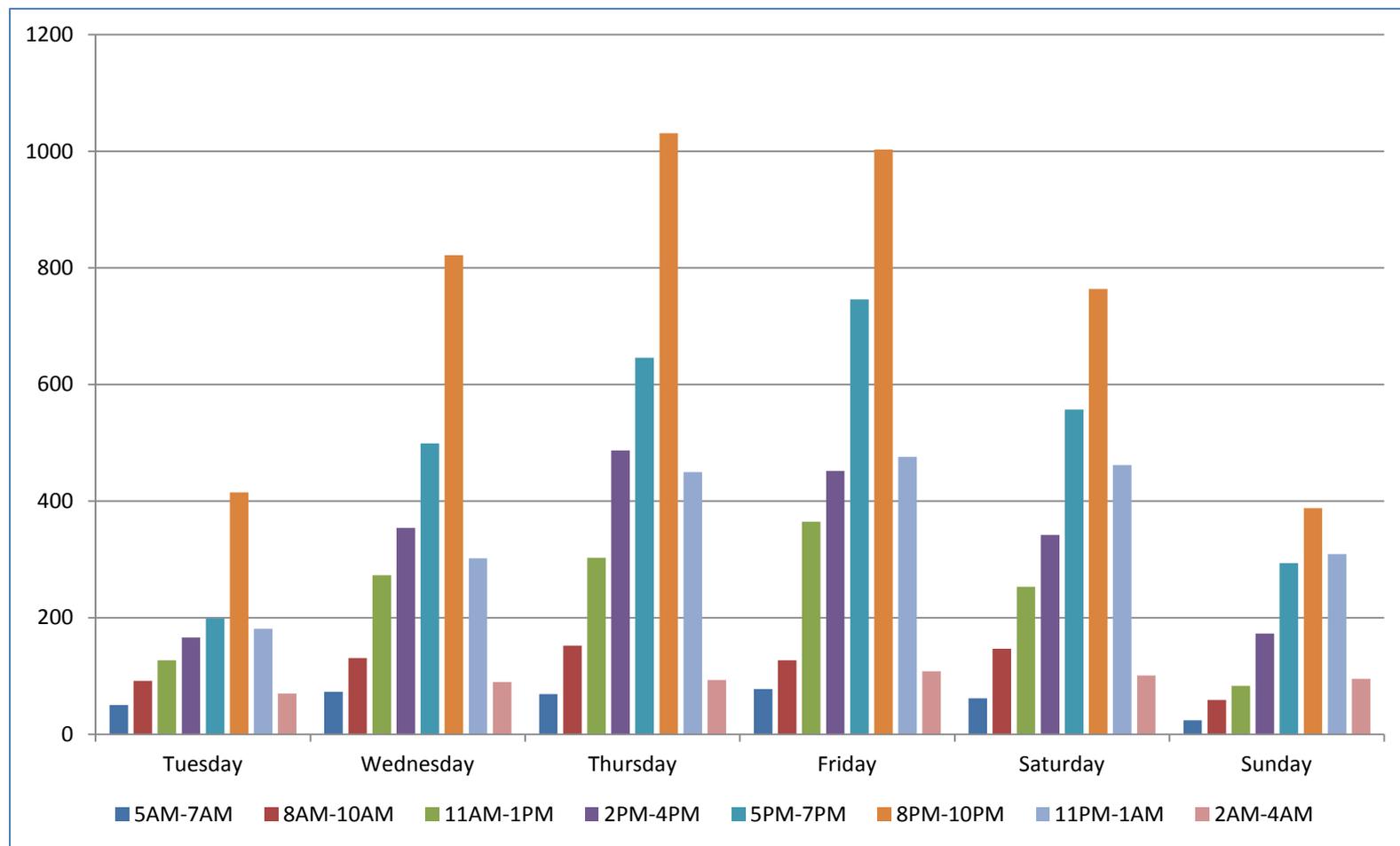
Source: 2006-2008 National Incident-Based Reporting System databases.

Prostitution by Hour of the Day, 2006-2008



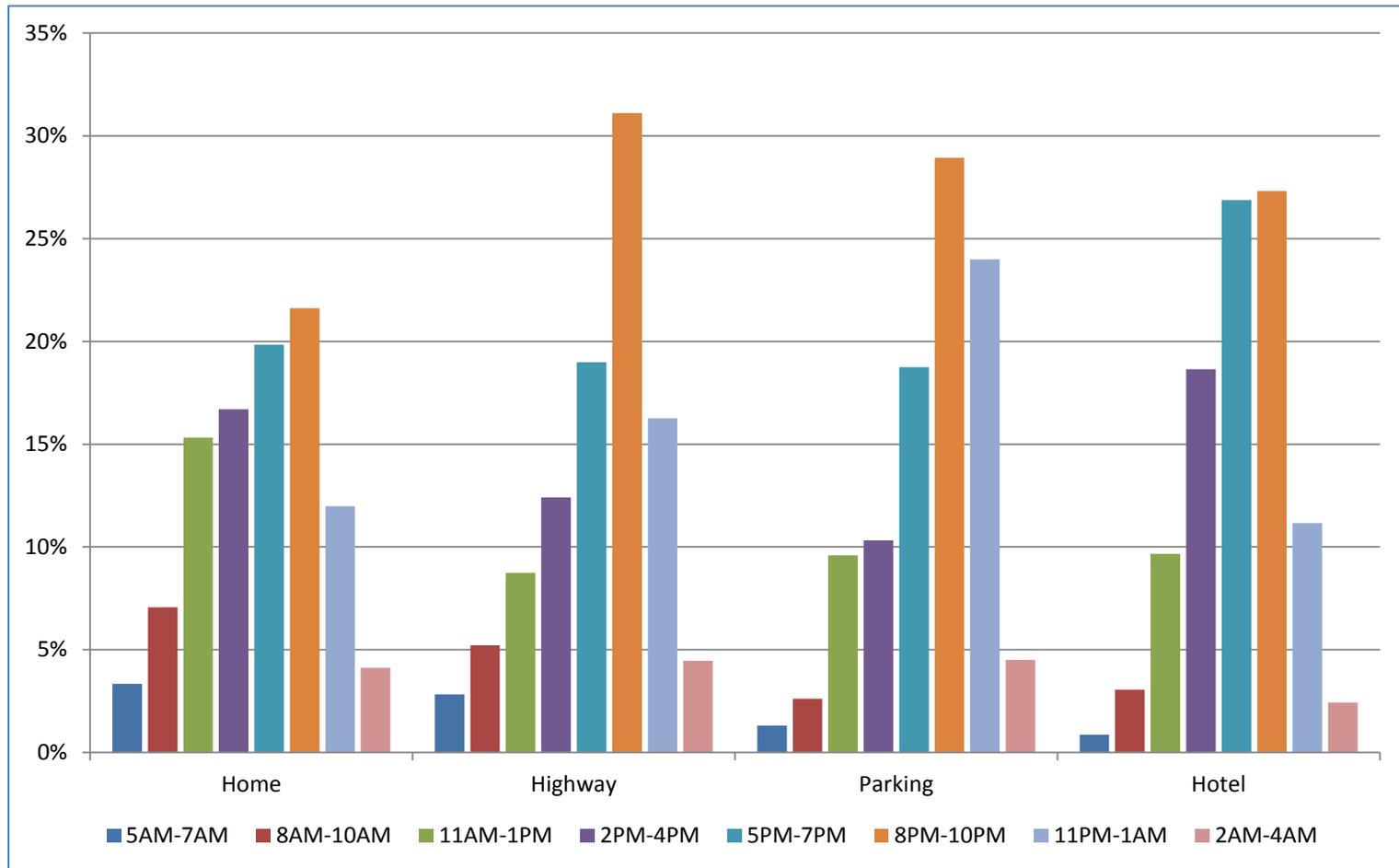
Source: 2006-2008 National Incident-Based Reporting System databases.

Prostitution by Day of the Week and Hour of the Day, 2006-2008



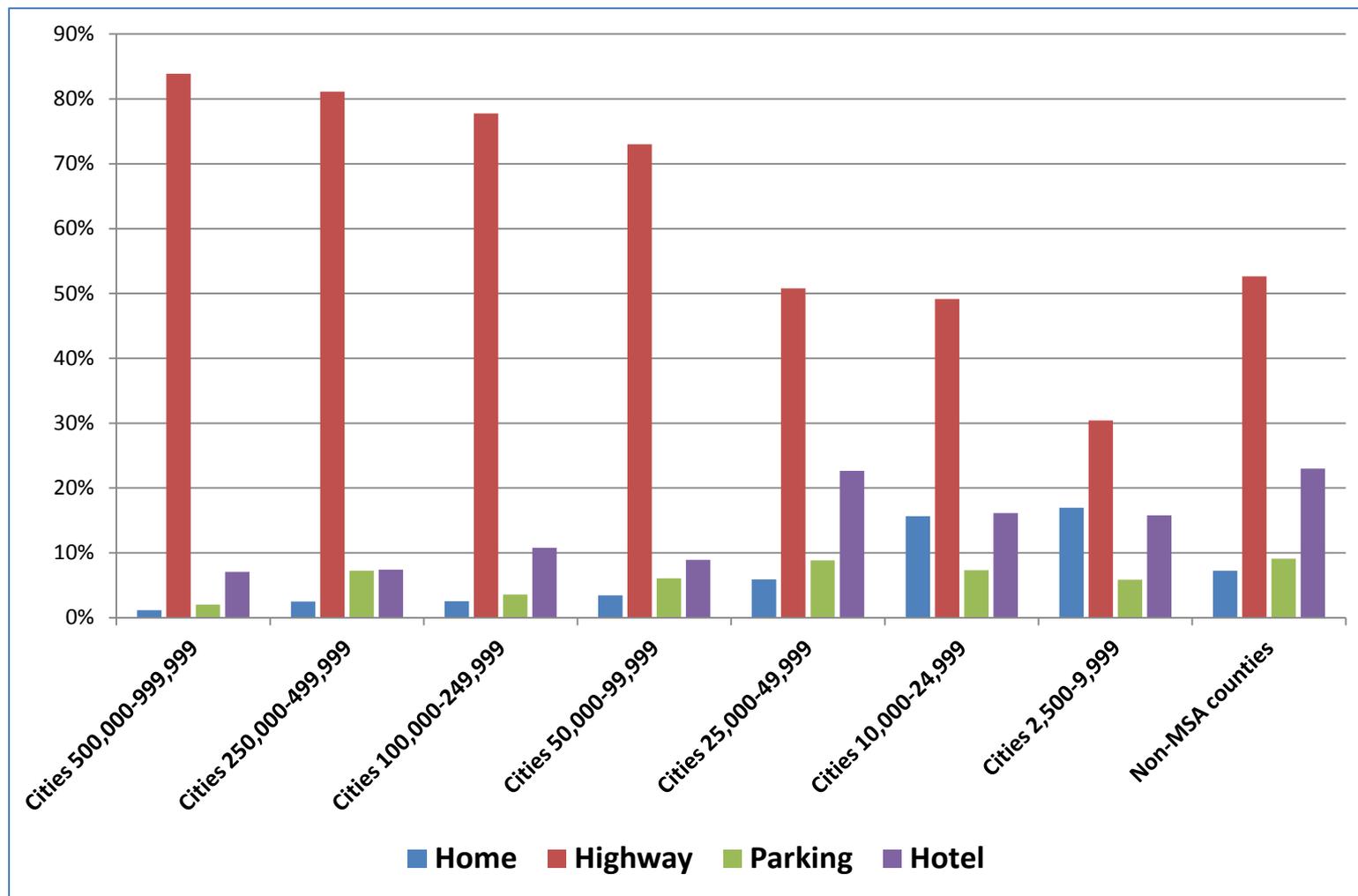
Source: 2006-2008 National Incident-Based Reporting System databases.

Prostitution by Location and Hour of the Day, 2006-2008



Source: 2006-2008 National Incident-Based Reporting System databases.

Prostitution by Population Group and Location, 2006-2008



Source: 2006-2008 National Incident-Based Reporting System databases.

Key Findings – Prostitution

- The vast majority of incidents of prostitution occur on the street, followed by hotels.
- The vast majority of incidents occurred on streets, followed by hotels.
- Most prostitution occurs on Thursdays
- Most incidents of prostitution occurred between 8:00 pm and 10:00 pm.
- Hotel and home/residence prostitution is relatively more frequent in smaller towns

Conclusions

- Crimes against property, persons, and society display a great deal of variation in time and location
- Incidents within each crime type are distinctly patterned
- Suggests opportunities for law enforcement agencies to efficiently and cost-effectively target crime-reducing initiatives
- Findings are intuitive and easily implemented into agency strategies

Next Steps

- Do the ages of offender and victim vary by time of day and location and offense?
- What sort of quality of life concerns does hotel-based prostitution present for families living in those facilities?
- What are the risks of victimization for various combinations of time and location?
- Are these findings supported by other data, such as the NCVS?

Thank you!

Questions?

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