



**NAVAL
POSTGRADUATE
SCHOOL**

MONTEREY, CALIFORNIA

THESIS

**THE USE OF SOCIAL MEDIA NETWORKS AND
MOBILE PHONE APPLICATIONS FOR REPORTING
SUSPICIOUS AND CRIMINAL ACTIVITIES ON MASS
TRANSIT**

by

Jennifer S. Donald

December 2013

Thesis Co-Advisors:

Nadav Morag
Patrick Miller

Approved for public release; distribution is unlimited

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.			
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE December 2013	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE THE USE OF SOCIAL MEDIA AND SMARTPHONE APPLICATIONS FOR REPORTING SUSPICIOUS AND CRIMINAL ACTIVITIES TO MASS TRANSIT LAW ENFORCEMENT AGENCIES		5. FUNDING NUMBERS	
6. AUTHOR(S) Jennifer S. Donald			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A		10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol number ___N/A___.			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited		12b. DISTRIBUTION CODE A	
13. ABSTRACT (maximum 200 words) The threat of terrorism remains in the forefront daily, and public transportation systems remain a preferred target for terrorist attacks. Mass transit customers have long served as the "eyes and ears" of the public transportation environment. In support of the Department of Homeland Security's <i>See It Say It</i> campaign, mass transit customers contribute to this effort by reporting suspicious and criminal activities on subways and buses. The use of social media networks and mobile phone applications by mass transit law enforcement is slowly evolving as a tool for reporting suspicious and criminal activities on subways and buses. By reviewing the data and current use of social media networks and smartphone applications such as by mass transit law enforcement agencies, this thesis demonstrates that citizens want to play a role in assisting law enforcement in solving crimes. Mass transit law enforcement agencies can leverage community involvement and reduce crime by providing customers with an anonymous means for reporting suspicious and criminal activities. However, whether the use of social media networks and smartphone applications have resulted in an increase in reporting suspicious and criminal activities and a reduction in crime is unresolved, warranting future study in this area.			
14. SUBJECT TERMS Social Media Networks, Mass Transit, Mobile Phone Applications		15. NUMBER OF PAGES 117	16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited

**THE USE OF SOCIAL MEDIA AND SMARTPHONE APPLICATIONS FOR
REPORTING SUSPICIOUS AND CRIMINAL ACTIVITIES TO MASS TRANSIT
LAW ENFORCEMENT AGENCIES**

Jennifer S. Donald
Lieutenant, Metro Transit Police Department
B.S., University of Maryland University College, 1995

Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL
December 2013**

Author: Jennifer S. Donald

Approved by: Nadav Morag
Thesis Co-Advisor

Patrick Miller
Thesis Co-Advisor

Mohammed Hafez, PhD
Chair, Department of National Security Affairs

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

The threat of terrorism remains in the forefront daily, and public transportation systems remain a preferred target for terrorist attacks. Mass transit customers have long served as the “eyes and ears” of the public transportation environment. In support of the Department of Homeland Security’s *See It Say It* campaign, mass transit customers contribute to this effort by reporting suspicious and criminal activities on subways and buses. The use of social media networks and mobile phone applications by mass transit law enforcement is slowly evolving as a tool for reporting suspicious and criminal activities on subways and buses.

By reviewing the data and current use of social media networks and smartphone applications such as by mass transit law enforcement agencies, this thesis demonstrates that citizens want to play a role in assisting law enforcement in solving crimes. Mass transit law enforcement agencies can leverage community involvement and reduce crime by providing customers with an anonymous means for reporting suspicious and criminal activities. However, whether the use of social media networks and smartphone applications have resulted in an increase in reporting suspicious and criminal activities and a reduction in crime is unresolved, warranting future study in this area.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	PROBLEM STATEMENT	1
B.	BACKGROUND	2
C.	RESEARCH QUESTIONS.....	5
	1. Primary	5
	2. Secondary.....	5
II.	LITERATURE REVIEW	7
A.	USE OF SOCIAL MEDIA BY LAW ENFORCEMENT AND MASS TRANSIT AGENCIES.....	7
	1. Survey Literature.....	7
B.	TYPES OF SOCIAL MEDIA NETWORKS AND MOBILE PHONE APPLICATIONS CURRENTLY IN USE BY LAW ENFORCEMENT AND MASS TRANSIT LAW ENFORCEMENT AGENCIES.....	11
	1. Smartphone Applications Currently in Use by Mass Transit Law Enforcement Agencies.....	12
	2. Mass Transit Law Enforcement Use of Text Messaging for Fighting Crime	13
	3. Barriers That Prevent the Public From Reporting Suspicious and Criminal Activities.....	14
	4. Psychology of Citizen Crime Reporting – The Bystander Effect ..	15
	5. Barriers to Implementing Social Media Networks and Mobile Phone Applications for Reporting Suspicious and Criminal Activities.....	19
	6. Importance of Social Media Policies	20
	7. Conclusion	20
III.	RESEARCH QUESTIONS.....	23
A.	PRIMARY	23
	1. What is an Effective Methodology for the Integration of Social Media Networks and Mobile Phone Applications for Customer Reporting of Suspicious and Criminal Activities to Mass Transit Law Enforcement Departments?	23
	2. Conclusion	24
B.	SECONDARY	25
	1. What Are the Types of Social Media Networks and Mobile Phone Applications Currently Being Used By Law Enforcement and Mass Transit Law Enforcement Departments and How Are They Being Used to Report Suspicious or Criminal Activities?	25
C.	CONCLUSION	29

1.	In Which Ways Has the Use of Social Media Networks and Mobile Phone Applications Increased Reporting of Suspicious or Criminal Activities?	30
2.	Conclusion	32
3.	What are the Barriers That Prevent the Public From Reporting Suspicious and Criminal Activities?	32
4.	Conclusion	36
5.	What are Barriers That Exist in the Implementation of Social Media Networks and Mobile Phone Applications For Reporting Suspicious and Criminal Activities By Law Enforcement and Mass Transit Law Enforcement Agencies?	37
6.	Review of How Successful Social Media and Smartphone Applications Have Been in Reporting Suspicious and Criminal Activities, Solving Cases, Criminal Investigations and Arrests	45
7.	Conclusion	48
IV.	DATA ANALYSIS—U.S. MASS TRANSIT AGENCIES CURRENT USE OF SOCIAL MEDIA NETWORKS AND MOBILE PHONE APPLICATIONS FOR REPORTING SUSPICIOUS AND CRIMINAL ACTIVITY	51
A.	BACKGROUND	51
B.	MASSACHUSETTS BAY TRANSIT AUTHORITY (MBTA)	51
C.	GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY	53
D.	METROPOLITAN ATLANTA RAPID TRANSIT AUTHORITY (MARTA)	54
E.	SANTA CLARA VALLEY TRANSPORTATION AUTHORITY	55
F.	NIAGARA FRONTIER TRANSPORTATION AUTHORITY	56
G.	LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY	57
H.	CONCLUSION	58
V.	DATA ANALYSIS—U.K. MASS TRANSIT AGENCIES CURRENT USE OF SOCIAL MEDIA NETWORKS AND MOBILE PHONE APPLICATIONS FOR REPORTING SUSPICIOUS AND CRIMINAL ACTIVITY	59
A.	BACKGROUND	59
B.	BRITISH TRANSPORT POLICE CURRENT USE OF SOCIAL MEDIA NETWORKS AND MOBILE PHONE APPLICATIONS FOR REPORTING SUSPICIOUS AND CRIMINAL ACTIVITY	60
C.	GREATER MANCHESTER POLICE (GMP)	61
D.	NORTHUMBRIA POLICE DEPARTMENT	63
E.	WEST MIDLANDS POLICE	64
F.	CONCLUSION	65
VI.	ANALYSIS	67
A.	FINDINGS AND SUMMARIES	67
B.	CONCLUSION	73

VII. CONCLUSION AND RECOMMENDATIONS.....	75
A. IMPLEMENTATION OF A “ONE-STOP SHOP” SMARTPHONE TRANSIT APP.....	78
B. RECOMMENDATIONS FOR FUTURE RESEARCH.....	81
C. CONCLUSION	81
APPENDIX. UNIVERSAL MASS TRANSIT SOCIAL MEDIA NETWORKS AND MOBILE PHONE APPLICATIONS GENERAL ORDER TEMPLATE POLICY FOR MASS TRANSIT LAW ENFORCEMENT AGENCIES.....	83
A. PURPOSE.....	83
B. POLICY.....	83
C. DEFINITIONS	84
D. RESPONSIBILITIES.....	84
E. SOCIAL MEDIA ETIQUETTE.....	85
F. DEPARTMENTAL ISSUED EQUIPMENT	85
G. PHOTOGRAPHS AND VIDEOS	86
LIST OF REFERENCES.....	87
INITIAL DISTRIBUTION LIST	95

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF FIGURES

Figure 1.	IACP 2012 Survey Results	8
Figure 2.	Social Media Use In Law Enforcement Investigations (LexisNexis Risk Solutions 2012).....	27

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Barriers to Implementing Social Media Networks and Smartphone Applications	44
----------	--	----

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

APPS	Application
APTA	America Public Transportation Association
BOLO	Be on the Lookout
BTP	British Transport Police
CCTV	Closed Circuit Television
CD	Communications Data
DHS	Department of Homeland Security
FEMA	Federal Emergency Management Agency
GCRTA	Greater Cleveland Regional Transit Authority
GMP	Greater Manchester Police
IACP	International Association of Chief's of Police
ICT	Information Communications Technology
ID	Identification
IP	Internet Protocol
K-9	Canine
MARTA	Metropolitan Atlanta Rapid Transit Authority
MBTA	Massachusetts Bay Transit Authority
MET	London Metropolitan Police
METRO	Los Angeles County Metropolitan Transportation Authority
MTA	Metropolitan Transit Authority
NFTA	Niagara Frontier Transportation Authority
NJTPD	New Jersey Transit Police Department
MTPD	Metro Transit Police Department
RIPA	Regulation of Investigatory Powers Act
SEPTA	Southeastern Pennsylvania Transportation Authority Police Department
SMILE	Social Media the Internet and Law Enforcement
TCRP	Transit Cooperative Research Program
TPS	Toronto Police Service
UK	United Kingdom
USC	University of Southern California
VTA	Santa Clara Valley Transportation Authority

THIS PAGE INTENTIONALLY LEFT BLANK

EXECUTIVE SUMMARY

The use of social media networks and mobile phone applications by mass transit law enforcement is slowly evolving as a tool for reporting suspicious and criminal activities on subways and buses. Although social media networks are in use by a number of mass transit agencies for reporting commuter information regarding subways and buses, only a few of these networks have been implemented by mass transit law enforcement departments for reporting suspicious or criminal activities.

The threat of terrorism remains in the forefront daily and public transportation systems remains a preferred target for terrorist attacks. The Madrid Train bombings on March 11, 2004, the July 7, 2005, London Tube Bombings and the September 11, 2001, terrorist attacks on the United States caused mass transit agencies across the world to reevaluate their security measures and raise public awareness of the threat of terrorism.

Since the 9/11 attacks over a decade ago, mass transit subway systems remain vulnerable targets. Subway systems across the world have been bombed in terror attacks including The Madrid Train, London Tube Bombings and most recently the Minsk Metro bombing in April 2011. The threat of terrorism remains in the forefront of public transportation systems across the country daily. Policing in the transit environment is challenging. Transit police officers are not assigned to every station due to manpower constraints and oftentimes the citizens that ride the system are the “eyes and ears” for observing suspicious behaviors and activities. Ensuring the public’s awareness and reporting of suspicious and criminal activity is vital.

To combat this ever present threat, the United States with the support of the Department of Homeland Security (DHS) launched robust campaigns such as the “*If You See Something, Say Something*” to raise public awareness of reporting suspicious activities on mass transit transportation systems across the nation. Mass transit customers have long served as the “eyes and ears” of the public transportation environment. In support of the Department of Homeland Security’s *See It Say It* Campaign, mass transit customers contribute to this effort by reporting suspicious and criminal activities on subways and buses. Recognizing that public awareness and citizen reporting of

suspicious and criminal activities is imperative for reducing crime and preventing terrorism, providing alternative means for citizens to report these activities is paramount in keeping mass transit systems and communities safe both here in the United States and abroad. A significant factor that contributes to the overall success of any emerging technology is customer usage. Social media networks and mobile phone applications are designed to provide a seamless collaboration of information sharing but barriers that prevent the public from reporting suspicious and criminal activities remain.

This thesis explores the current use of social media networks and smartphone applications for reporting suspicious and criminal activities to mass transit law enforcement agencies. It outlines the factors mass transit law enforcement agencies should consider in adopting these technologies and highlights the importance of social media policies to establish guidelines. Research for this project included a data evaluation of the use of social media and mobile phone applications for reporting suspicious and criminal activities on mass transit and their effectiveness. The sources of data and evidence included surveys, websites, online sources, and publications.

Although the use of social media networks and smartphone applications for reporting suspicious and criminal activities on mass transit is evolving, a review of the literature did not reveal any data on arrests, case closures or law enforcement calls for service resulting from the use of social media networks. Based upon a gap in the research, determining the efficiency and usefulness of social media and smartphone applications for reporting suspicious and criminal activities is inconclusive.

Social media is not just a concept and should not be entered into lightly. This paper focuses on providing mass transit law enforcement agencies with strategies, challenges, and guidelines on how to implement social media networks and smartphone applications that would prove to be beneficial and increase suspicious and criminal activity reporting on mass transit.

ACKNOWLEDGMENTS

First and foremost, I would like to thank God and my mom in heaven above, for without your support and instilling strength within me to persevere through all obstacles before me, completing this program would not have been possible. I would like to thank my family, Warren, Milan, Sheri and Joseph. You guys have been my biggest supporters. Warren thanks for taking on dual mommy and daddy duties and adjusting your busy schedule during the times I was away during the IRs. Milan, Sheri and Joseph, thank you for understanding the missed Birthdays, school activities, my grumpiness from all night study sessions and the months of Mommy being a “crabby patty.” Sheri I am so relieved to finally say that I have finished “that thesis thing”! I hope that I have served as a model for you to strive to be all that they can be and shown you how to appreciate the importance of a good education.

Many thanks to Chief Michael Taborn and Chief Ronald Pavlik for endorsing and supporting me throughout the program. Deputy Chief Tracie Simmons, Lieutenant Gregory Hanna and Sergeant Tiffany Washington, I would have been lost if you had not assisted with the many requests for literature I needed to complete my assignments. Deputy Chief Leslie Campbell and Captain Lance Ware, I owe you both lunch for spending countless hours on the phone with me at night as you assisted me with various projects and papers.

I am forever grateful to my wonderful thesis advisors Nadav Morag and Pat Miller. Your patience, understanding, advice, support and concern inspired me to strive harder when I wanted to give up. The emails and phone calls regarding my welfare were the fuel I needed to keep pressing forward. I would also like to thank the staff at CHDS for providing me with guidance to complete this program. Your suggestions, recommendations, and resourcefulness pointed me in the direction needed to successfully complete this thesis process.

Lastly, I would be remiss to not thank Mr. Glen Woodbury, Dr. David Brannan and Scott Martis for affording me the opportunity to complete the program and believing in me.

I. INTRODUCTION

*Our greatest weapon against terrorism is unity. That unity is built on information sharing and coordination among our partners in law enforcement and the intelligence communities. It is built on partnerships with the private sector and effective outreach to the public as our eyes and ears. It is built on the idea that, together we are smarter and stronger than we are standing alone.*¹

A. PROBLEM STATEMENT

The threat of terrorism remains in the forefront daily and public transportation systems continue to be a preferred target for terrorist attacks. Mass transit customers have long served as the “eyes and ears” of the public transportation environment. In support of the Department of Homeland Security’s *See It Say It* campaign, mass transit customers contribute to this effort by reporting suspicious and criminal activities on subways and buses.

The use of social media platforms and mobile phone applications have become a part of everyday life. Adoption of these technologies would enhance daily interaction and exchange of information between mass transit law enforcement departments and the community they serve. A significant factor that contributes to the overall success of any emerging technology is customer usage. The use of social media and social networking have emerged at an alarming rate. Social media provides interactive ways for people to communicate across the world.

The International Association of Chief’s of Police Center for Social Media (IACP) defines Social Media as the following:²

- A category of Internet-based resources that integrate user-generated content and user participation. This includes, but is not limited to, social networking sites (Facebook, MySpace), microblogging sites (Twitter) photo and video sharing sites (Flickr, YouTube), wikis (*Wikipedia*), blogs and news sites (Digg, Reddit)

¹ Robert S. Mueller (Dumon 2013), “The Threat of Homegrown Terrorism,” The FBI Federal Bureau of Investigation, June 23, 2006, www.fbi.gov/news/speeches/the-threat-of-homegrown-terrorism.

² IACP Center For Social Media, “Social Networks,” *IACP Center For Social Media*, 2010–2103, <http://www.iacpsocialmedia.org/Technologies/>.

According to the 2012 Nielsen's Social Media Report, consumers spend most of their time on social networks. Total time spent on social media and mobile devices in the United States increased to 121 billion minutes in July 2012 compared to 88 billion in July 2011, resulting in an increase of 37%.³ Social media networks and mobile phone applications are designed to provide a seamless collaboration of information sharing but barriers that prevent the public from reporting suspicious and criminal activities remain.

Social media has become the norm for everyday use by people. In an effort to keep informed and engaged with the community, law enforcement agencies can not afford to overlook social media implementation. Common-use social media by law enforcement include community engagement, recruitment, public announcements, soliciting crime tips and investigations.

B. BACKGROUND

The use of social media networks and mobile phone applications by mass transit law enforcement officers is slowly evolving as a tool for reporting suspicious and criminal activities on subways and buses. Although social media networks are in use by a number of mass transit agencies for reporting commuter information regarding subways and buses, only a few of these networks have been implemented by mass transit law enforcement departments for reporting suspicious or criminal activities. Since transit agencies are considered "soft targets" and by design are nearly impossible to maintain 100% security, they will continue to be targeted by criminals or terrorists.⁴ Because of this, transit agencies must continue to educate their customers and provide mechanisms for them to report suspicious activities and crime effortlessly. By adopting social media networks, transit agencies can equip, protect, and defend their customers from criminal activities.

Currently, there are few mass transit law enforcement departments that utilize mobile phone applications for reporting suspicious and criminal activities. Mass transit

³ Nielsen Newswire, "Social Media Report 2012: Social Media Comes of Age," Nielsen Newswire, December 3, 2012, <http://www.nielsen.com/us/en/newswire/2012/social-media-report>.

⁴ Pamela A. Shepherd, "Transit Police: Fighting the Fight On the Move," Eno Center for Transportation, 2013, <http://www.enotrans.org/enobrief/transit-police-fighting-the-fight-on-the-move>.

agencies that are currently utilizing these technologies are the Massachusetts Bay Transit Authority (MBTA), the Greater Cleveland Regional Transit Authority (GCRTA), the Metropolitan Atlanta Rapid Transit Authority (MARTA), the Santa Clara Valley Transportation Authority (VTA), the Niagara Frontier Transportation Authority (NFTA) and the Los Angeles County Metropolitan Transportation Authority (Metro). Overall, a small percentage of law enforcement departments have integrated both social media networks and mobile phone applications.

Post 9/11, law enforcement departments around the world are faced with a myriad of threats from the use of technology by violent extremists groups and gangs. These groups are using social media platforms and mobile phone technologies for recruiting members and planning their next attacks. In order to combat and thwart potential terrorist and gang attacks, it is imperative for law enforcement agencies to leverage social media technologies to level the playing field against terrorists and criminals. Criminals live online just like law-abiding citizens: “By monitoring criminal activity on social networks, law enforcement officers gain insight into the patterns of criminals essential in the investigative process.”⁵

Although social media and mobile phone technologies have become useful tools for law enforcement in investigating crimes, gathering intelligence, identifying suspects and preventing crimes, barriers to implementing the use of these technologies remain. Mass transit law enforcement agencies are usually smaller compared to local and federal law enforcement agencies currently utilizing social media platforms and therefore are unable to dedicate personnel resources to monitor and manage social media and mobile phone application activities.

Social media networks and mobile phone applications are current technologies that have a limited amount of resources regarding their usage and effectiveness in the mass transit environment. Examining the effectiveness and usage of social media and mobile phone applications for reporting suspicious and criminal activities on mass transit

⁵ Jane Susskind, “Law Enforcement and Social Media: Fighting Crime, One Tweet at a Time,” Independent Voter Network (IVN), February 16, 2013, <http://ivn.us/2013/02/16/law-enforcement-and-social-media-fighting>.

is needed and worthy of exploration especially if the research proves the benefits outweigh the obstacles that are preventing mass transit agencies from implementing their usage and best practices and lessons learned are discovered for future implementation.

This thesis will follow a data analysis methodology. The focus of study will be an evaluation of the use of social media and mobile phone applications for reporting suspicious and criminal activities on mass transit and their effectiveness. The sources of data and evidence that will be used are current social media networks in use by mass transit law enforcement agencies in the United States and the United Kingdom, surveys, websites, online sources and publications.

The Massachusetts Bay Transit Authority (MBTA), the Greater Cleveland Regional Transit Authority (GCRTA), the Metropolitan Atlanta Rapid Transit Authority (MARTA), the Santa Clara Valley Transportation Authority (VTA), the Niagara Frontier Transportation Authority (NFTA) and the Los Angeles County Metropolitan Transportation Authority (Metro) transit agencies current use of social media and smartphone applications will be examined for data analysis.

These agencies have been selected because they currently integrate the usage of either social media platforms or mobile phone applications for reporting suspicious and criminal activities occurring on mass transit. In addition, a data analysis will be conducted on the use of social media networks and smartphone applications by mass transit agencies in the United Kingdom and the successes and failures of their implementation of these technologies. Data analysis will also be conducted on the British Transport Police, Greater Manchester Police (GMP), Northumbria Police Department, and the West Midlands Police, who in March 2013, became the first police department in the UK to implement a smartphone app for reporting anti-social behavior.⁶

The steps to the analysis are exploration and data collection, review of the data sources and compare and contrast the current social media platforms and mobile phone applications currently in use by each transit agency.

⁶ Laura Peberday, "Smart phone app launched to improve safety on public transport," News4Brum, March 13, 2013, <http://www.news4brum.wordpress.com/2013/03/13/smart-phone-app-launched-to-improve-safety-on-public-transport>.

Currently, a research gap exists in the specific usage and effectiveness of social media networks and mobile phone applications by mass transit agencies. This thesis will synthesize through new research to fill these existing gaps. Since the integration of social media networks and mobile phone applications for reporting suspicious and criminal activities into the mass transit domain is an evolving technology the following areas will be examined:

- Identification of types of social media networks and/or mobile phone applications being used by law enforcement and mass transit law enforcement agencies
- Barriers that exist to customer reporting of suspicious activities and criminal activities
- Barriers to implementing the use of social media networks and mobile phone applications law enforcement and mass transit law enforcement agencies
- Review of how successful social media and smartphone applications have been in reporting suspicious and criminal activities, solving cases, criminal investigations and arrests
- Exploration and introduction of new emerging similar technologies that are conducive in crime reporting on mass transit
- Review of which social media platforms are effective or not

This thesis will be the first to explore the integration of both social media and mobile phone applications for reporting suspicious and criminal activities by mass transit law enforcement agencies.

C. RESEARCH QUESTIONS

1. Primary

What is an effective methodology for the integration of social media networks and mobile phone applications for customer reporting of suspicious and criminal activities to mass transit law enforcement departments?

2. Secondary

- What are the types of social media networks and mobile phone applications currently being used by law enforcement and mass transit law

enforcement departments and how are they being used to report suspicious or criminal activities?

- In what ways has the use of social media networks and mobile phone applications increased reporting of suspicious or criminal activities?
- What are barriers that prevent the public from reporting suspicious and criminal activities?
- What are barriers that exist in the implementation of social media networks and mobile phone applications for reporting suspicious and criminal activities by law enforcement and mass transit law enforcement agencies?

II. LITERATURE REVIEW

A. USE OF SOCIAL MEDIA BY LAW ENFORCEMENT AND MASS TRANSIT AGENCIES

This literature review will focus on the evolving use of social media networks and integration of mobile phone applications for reporting suspicious and criminal activities on mass transit. The research that follows reveals although law enforcement is increasingly implementing the application of social media networks and mobile phone applications for communication, information sharing and reporting crime tips with the public, there is limited academic research of the application of this technology by mass transit law enforcement agencies. Mass transit law enforcement agency case studies, survey literature and literature on social media networks and cell phone applications from websites, online sources and publications revealed an overwhelming usage of social media networks by mass transit agencies for transportation service updates and information but no succinct information exists regarding best practices and strategies for the application of both social media networks and the integration of mobile phone applications for reporting suspicious activities on mass transit. The literature to be reviewed is categorized as follows: survey literature, types of social media networks and mobile phone applications currently in use by law enforcement and mass transit law enforcement agencies, smartphone applications currently in use by mass transit law enforcement agencies, mass transit law enforcement use of text messaging for fighting crime, barriers that prevent the public from reporting suspicious and criminal activities, psychology of citizen crime reporting – bystander effect, barriers to implementing social media networks and mobile phone applications for reporting suspicious and criminal activities and the importance of social media policies.

1. Survey Literature

A review of the literature for the current usage of social media by law enforcement agencies from the *2012 International Association of Chiefs of Police (IACP) Social Media* survey revealed that out of the 600 law enforcement agencies represented in

the survey, 92.4% use social media.⁷ The study and research of the integration of social media networks and mobile phone applications for reporting suspicious and criminal activities on mass transit is finite. The study revealed only 0.8% participation from transportation related law enforcement agencies compared to 85.5% from municipal police departments (Figure 1).

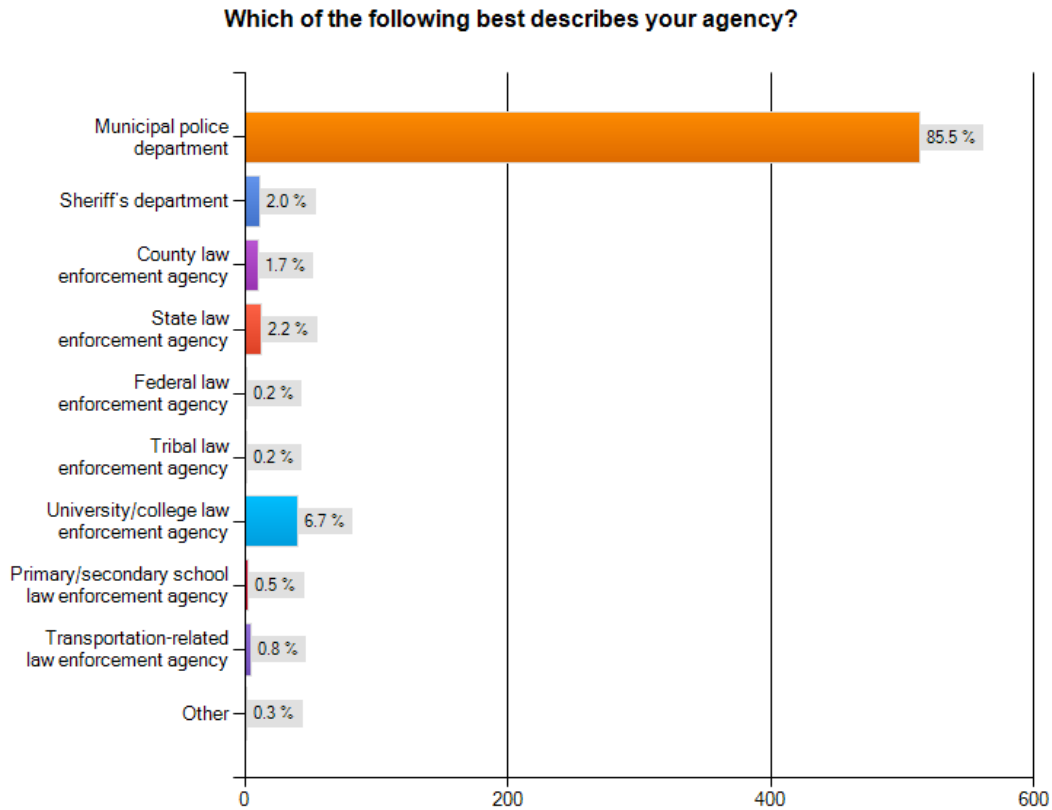


Figure 1. IACP 2012 Survey Results

In March 2012, LexisNexis Risk Solutions conducted an online study of 1,221 law enforcement professionals from the federal, state and local sectors to determine the current use of social media in the law enforcement community. The *Survey of Law Enforcement Personnel and Their Use of Social Media in Investigations* identified that

⁷⁷ IACP, “IACP Center for Social Media 2012 Survey Results,” IACP Center for Social Media, August 2012, www.iacpsocialmedia.org/Resources/2012Results.aspx.

social media is widely used for investigations with 69% of law enforcement professionals using it for this purpose. Crime anticipation tactics such as identifying people and locations, discovering criminal activity and gathering evidence ranked the next highest with 41% in social media usage.⁸ The survey revealed that only 22% of law enforcement agencies are using social media for soliciting crime tips.

The data sources utilized for this literature review revealed that social media and mobile phone application usage by law enforcement agencies is increasing. “The explosive growth and technological sophistication of smart phones and the surging popularity of social networking sites have empowered the general public and raised expectations regarding services provided by law enforcement, the ability to communicate with police and the transparency of the organization.”⁹

The LexisNexis Risk Solutions survey cited that social media has proven to be an invaluable investigatory tool and that its usage is expected to increase in the future. The survey identified similar trends found in the various publications that will be used for this thesis such as the barriers that exist in implementing social media. Personnel, logistics, training and lack of leadership support were identified as obstacles. The importance of having a social media strategy and policy can help police departments looking to implement these platforms overcome barriers and obstacles. *Social Media and Tactical Considerations for Law Enforcement*, a report developed by the Police Executive Research Forum used the Toronto Police Services (TPS) as a model for implementing a social media strategy. TPS has been utilizing social media platforms such as Facebook, Twitter and YouTube for over six years and suggests that departments should not “allow an over-sensitivity to risk assessment derail the process of developing social media.” The agency recommends that Police leaders focus on the potential rewards of social media platforms and work to mitigate risks.¹⁰

⁸ IACP, “IACP Center for Social Media 2012 Survey Results,” IACP Center for Social Media, August 2012, www.iacpsocialmedia.org/Resources/2012Results.aspx.

⁹ Robert S. Mueller, “The Threat of Homegrown Terrorism,” The FBI Federal Bureau of Investigation, June 23, 2006, www.fbi.gov/news/speeches/the-threat-of-homegrown-terrorism.

¹⁰ Forum, U.S. Department of Justice Office of Community Oriented Policing Services & Police Executive Research Forum, “Social Media and Tactical Considerations For Law Enforcement,” Washington, DC, 2013.

The *Transit Cooperative Research Program (TCRP) Synthesis 99 – Use of Social Media in Public Transportation* study conducted in 2012 examined the use of social media by mass transit agencies in the United States and Canada. The online study was comprised of 39 transit agencies from different geographic areas ranging from small scale to large-scale properties in the United States and Canada. TCRP Synthesis 99 specifically focused on the use of social media in public transportation and concluded that Facebook and Twitter were key to providing information to riders about services and fares but information regarding the implementation of reporting suspicious or criminal activities using these networks was non-existent.¹¹

Although transit agencies have begun to implement social media networks it is not primarily being used their for reducing crime on mass transit. Their focus on utilizing these networks is to provide the following:

- Timely updates and real-time service information for riders
- Public information such as fare hikes, service interruptions or upcoming projects
- Citizen engagement to illicit information on the service they are providing to customers
- Employee recognition and recruitment of new employees
- Entertainment purposes such as upcoming contests or events

A review of the TCRP Synthesis 99 survey concludes and substantiates the need for further research in the use of social media networks and smartphone applications for reporting suspicious and criminal activities on mass transit. The use of these technologies was not explored nor mentioned throughout the entire mass transit specific survey.

¹¹ Transportation Research Board, “TCRP Synthesis 99—Uses of Social Media in Public Transportation,” Washington, DC, 2012.

B. TYPES OF SOCIAL MEDIA NETWORKS AND MOBILE PHONE APPLICATIONS CURRENTLY IN USE BY LAW ENFORCEMENT AND MASS TRANSIT LAW ENFORCEMENT AGENCIES

Recent surveys show social media and mobile phone application usage by law enforcement agencies is increasing. “Social Media tools offer police departments a way to listen to their citizens and hear what is being said about the department, crime, the quality of life, and events.”¹²

Surveys conducted by IACP and LexisNexis Risk Solutions conclusively report that Facebook is the primary method used by law enforcement agencies. The TCRP Synthesis 99 survey on mass transit agencies use of social media concludes Facebook and Twitter were key to providing information to riders about services and fares but information regarding the implementation of reporting suspicious or criminal activities using these networks was scarce.¹³ The following Transit Police departments utilize Facebook or Twitter social media networks:

- The Massachusetts Bay Transportation Authority Police Department (MBTA) launched its Twitter account in August 2010.
- MBTA police department joined facebook on June 13, 2012.
- The Southeastern Pennsylvania Transportation Authority Police Department (SEPTA) joined Facebook on March 17, 2009.
- The SEPTA police Chief began using Twitter to fight crime on May 22, 2013 when the department experienced a spike in cell phone thefts.
- The Metro Transit Police Department launched its Twitter account on July 10, 2013

Although the LexisNexis Risk Solutions study which focused primarily on social media for investigative purposes reports 22% of law enforcement agencies use social media for soliciting crime tips, a review of the existing literature identifies gaps and no specific methodology for measuring the use and effectiveness of social media and mobile phone applications.

¹² Lauri Stevens, “Social Media in Policing: Nine Steps for Success,” *Police Chief Magazine*, February 2010: Vol. LXXVII, No. 2.

¹³ Transportation Research Board, “TCRP Synthesis 99— Uses of Social Media in Public Transportation,” Washington, D. C., 2012.

Research suggests that social media networks used by mass transit agencies have been successful in providing public information and connecting with customers. This thesis does not refute these findings as the literature and studies support them.

This thesis merely seeks to quantify the integration of other social media platforms and mobile phone applications for reporting suspicious and criminal activities.

1. Smartphone Applications Currently in Use by Mass Transit Law Enforcement Agencies

The connectivity that accompanies mobile devices has enhanced the growth of social media. Mobile apps and mobile web customer usage increased by 63% in 2012.¹⁴ The available literature on mobile phone applications shows a number of mass transit agencies launched smartphone applications over the last year which substantiates the evolving growth and frequency of use of these applications by both law enforcement and the public but overall the measure of the applications effectiveness or industries best practices remains unevaluated in academia.

The following mass transit police departments recently launched smartphone applications:

- May 2012 – Massachusetts Bay Transit Authority (MBTA) released an Android smartphone application which premiered on Apple’s mobile devices.
- February 2013 – Greater Cleveland Regional Transit Authority (GCRTA) released its iWatch app
- April 2013 – The Metropolitan Atlanta Rapid Transit Authority(MARTA) launched its “See & Say”
- May 2013 – Santa Clara Valley Transportation Authority (VTA) introduced its VTAlerts App
- June 2013 – Niagara Frontier Transportation Authority (NFTA) Transit Police Department implemented its “See Say” smartphone app
- June 2013 – The Los Angeles County Metropolitan Transportation Authority (Metro) introduced its smartphone app

¹⁴ Nielsen Newswire, “Social Media Report 2012: Social Media Comes of Age,” *Nielsen Newswire*, December 3, 2012, <http://www.nielsen.com/us/en/newswire/2012/social-media-report>.

The ability to report suspicious and criminal activities occurring on mass transit is often compromised. The enclosed design of subway cars and buses is unique and poses a threatening environment in which customers may be reluctant to report suspicious and criminal activities. The suspicious activity or criminal act could actually be occurring in the seat next to or in the aisle a few yards away from the reporting customer and the perpetrator who committed the act is still on the scene during the incident until the subway or bus reaches another stop. The smartphone applications currently in use by MBTA and VTA are designed for discretion. The app automatically disables the flash capability on the phone and allows citizens to discreetly send photos of the suspicious activity as it is occurring.

Existing research regarding mobile phone applications for reporting suspicious and criminal activities specifically on mass transit is limited, although a vast amount exists for state and local law enforcement agencies use of similar applications. For example, CrimeStoppers is a commonly used Iphone application used by many law enforcement agencies.¹⁵

2. Mass Transit Law Enforcement Use of Text Messaging for Fighting Crime

- Mass transit law enforcement agencies are slowly leveraging afforded by smartphone technologies. Texting crime tips is a convenient, discreet way for customers to utilize a tool they use daily, their cellphones. Mass transit law enforcement agencies who currently utilize text messaging for reporting crime are as follows: MBTA launched it's: See Something, Say Something app in 2003, which allows text messages and locations of suspicious activity to be sent directly to Transit Police
 - New Jersey Transit Police Department (NJTPD) debuted their "Text Against Terror" program in June 2011
 - Dallas Area Rapid Transit Police Department introduced the "**dartpolice 41411**" text a tip number in April 2006

¹⁵ Lucia Harper, "Crime Stoppers Iphone App Jan 30 2011," *Crime Stoppers*, January 30, 2011, <http://www.crimestoppers.ca/videos/media-releases/crime-stoppers-iphone-app-jan-30-2011/>.

- The Washington Metropolitan Transit Authority Metro Transit Police Department (MTPD) implemented the “MyMTPD Text Tips” program in October 2013

Modern technology such as social media and the ubiquitous of smartphones has afforded mass transit agencies the opportunity to maximize its crime fighting techniques. To date, many agencies unfortunately are not taking advantage of the opportunity these technologies can provide in their quest to engage with the public and increase suspicious and criminal activity reporting.

This thesis seeks to fill the unexplored possibilities and conclusive need for research regarding social media and mobile phone applications for reporting suspicious and criminal activities.

3. Barriers That Prevent the Public From Reporting Suspicious and Criminal Activities

In 2012, a joint research project was conducted by the Federal Emergency Management Agency (FEMA) Individual and Community Preparedness Division and the IACP which focused on improving the public’s awareness and reporting of suspicious activity. Prior to this study, little guidance or research existed on best practices to improve citizen reporting of suspicious activities and a lack of evidence existed regarding barriers that would prevent citizens from reporting information to law enforcement.

Improving the Public’s Awareness and Reporting of Suspicious Activity: Key Research Findings Research reports the majority of participants would not be deterred from reporting suspicious activities however some instances would make citizens hesitant. Examples included concerns of getting innocent persons in trouble (43%), fear of retaliation (36%), and uncertainty of worthiness to police (31%). The barrier that overwhelmingly refutes the existing research in terms of reporting suspicious or criminal activities was fear or mistrust of law enforcement which ranked the lowest of barriers at (23%).¹⁶ For the purpose of this thesis, it is important to highlight that a majority of participants indicated that they would not hesitate to report suspicious activity on mass transit.

¹⁶ FEMA, “Improving the Public’s Awareness and Reporting of Suspicious Activity,” 2012.

4. Psychology of Citizen Crime Reporting – The Bystander Effect

To combat the ever present threat of terrorism, the United States with the support of the Department of Homeland Security (DHS) launched a robust campaigns such as the “*If You See Something, Say Something*” to raise public awareness of reporting suspicious activities on mass transit transportation systems across the nation. In support of the Department of Homeland Security’s “*See It, Say It*” Campaign, mass transit customers contribute to this effort by reporting suspicious and criminal activities on subways and buses.

But what happens when customers see a crime in progress or someone getting attacked and fail to do anything at all? For example, on September 9, 2008, a man for no apparent reason and without warning went into a violent rage and took out a double-claw hammer and bludgeoned a 20-year old man who was sleeping peacefully in his seat on the Southeastern Pennsylvania Transportation Authority (SEPTA) subway.¹⁷ The surveillance cameras recorded the five minute long horrid attack and at least 10 passengers stood by and did nothing. Even when the attack continued onto the platform of the station and the attacker attempted to push his victim on the train tracks, no one helped or intervened.

Examples of inaction such as these are referred to as the Bystander Effect. The Bystander Effect refers to the fact that people are less likely to offer help when they are in a group than when they are alone. The infamous 1964 case involving Kitty Genovese who was raped and stabbed to death in an attack that lasted over thirty minutes in front of several dozen witnesses prompted research to determine the underlying reasons as to why help was not rendered to her.¹⁸

The results of the study revealed two reasons why the witnesses did not intervene:

- Pluralistic Ignorance – Witnesses do not realize that they are witnessing a

¹⁷ David Gambacorta, “Psycho hammers subway passenger,” *philly.com*, September 9, 2008, http://articles.philly.com/2008-09-09/news/24991373_1_attacker- .

¹⁸ Melissa Burkley, “Why Don’t We Help? Less is More, at Least When It Comes to Bystanders,” *Psychology Today*, November 4, 2009, <http://www.psychologytoday.com/blog/the-social-thinker/200911-why-don-t-we-help>.

- crime and look to others to determine how to react to a given situation. Pluralistic ignorance describes situations where the majority of people believe one thing but assume that others believe the opposite.
- Difusion of Responsibility – The more bystanders there are, the less responsible a person feels. The responsibility to act becomes defused among the group of bystanders.

An example of pluralistic ignorance was clearly demonstrated in the the 2009 case of a fifteen year old girl who was raped outside a homecoming dance in Richmond, California and no one reported it. Those who were present reportedly took photos on their cellphones and even laughed. Regarding pluralistic ignorance, it was pointed out that the mere fact that several of the witnesses in this case were laughing and taking photos suggests that they did not realize an actual rape was occurring and may have assumed it was a prank.¹⁹ Recently with the technological wave of the use of smartphones, a modern form of the Bystander Effect has evolved. Not only are people continuing to not come to one's aid but in addition, they are pulling out their smartphones to record these heinous atrocities where people are being victimized. Evidence of these instances have been recorded all over the world and recently was documented in Boston following the St. Patick's Day parade in March 2013. Numerous videos appeared online revealing people being attacked on a Massachusetts Bay Transportation Authority (MBTA) subway car. One video showed a female punch a male passenger in the face without cause while people watched and did nothing as she left the scene. The person who recorded the video could be heard laughing in the background of the video.²⁰

In an unrelated incident on the MBTA, a co-worker of a victim describes how he was attacked after intervening when two men were dragging an unknown female by the arms at the Downtown Crossing station. Like the previous incident, people did not intervene, recorded the incident and never turned in the video as evidence to assist in

¹⁹ Ibid.

²⁰ Steve Annear, "Flight or Fight: Why Do People Film Fights on the MBTA Instead of Stopping Them?" *Boston Magazine*, March 20, 2013, www.bostonmagazine.com/news/blog/2013/03/20/mbta-bystander-effect/.

apprehending the suspects even after the co-worker made a plea to do so via the Internet.²¹

Another example of a bystander taking photographs instead of rendering assistance occurred when Ki Suck Han was killed in the New York City subway after he was assaulted by a homeless man and was pushed onto the train trackbed. As he attempted to pull himself up from the trackbed, bystanders stood by and watched and a reporter took a photo rather than lend a hand to assist him.²²

These examples of bystanders who are equipped with help in their hands and still refuse to assist or even call the police but rather standby and take photos and video footage raise an important question: Does social media contribute to or inhibit the bystander effect?

According to psychologist Stephanie Newman, social media has caused our culture to become one without boundaries and the traumatic images we see on the news and viral YouTube sightings has caused us to become desensitized.²³

In line with this theory, Dr. Todd Farchione believes that feelings of reward with filming video footage keeps people from intervening, “We tend to get reinforced for recording fights. It can show up on the news, or get a million hits on YouTube and that’s what is getting reinforced” he says. He further stated “people are just not willing to risk their own lives if it’s not of their own making and often flee or standby and film.”²⁴

Additional studies reveal that technology has made it easier to disengage from the outside world. “In today’s waiting rooms, elevators and commuter trains, you see more

²¹ Ibid.

²² Noam Shpancer, “Bystanders and Heroes: The Dance of Defiance and Conformity,” *Psychology Today*, December 26, 2012, www.psychologytoday.com/blog/insight-therapy/201212/bystanders-and-heroes-the-defiance-and-conformity.

²³ Stephanie Newman, “The Mind of a Hero,” *Psychology Today*, November 7, 2011, www.psychologytoday.com/blog/apologies-freud/201111/the-mind-hero.

²⁴ Steve Annear, “Flight or Fight: Why Do People Film Fights on the MBTA Instead of Stopping Them?” *Boston Magazine*, March 20, 2013, www.bostonmagazine.com/news/blog/2013/03/20/mbta-bystander-effect/.

pairs of headphones than conversation and more people thumbing iPhones than making eye contact.”²⁵

Another example of how digital technology resulted in negative consequences was in November 2010, when Bill Nye, the Science Guy fainted during a lecture at the University of Southern California (USC). While Mr. Nye lay unconscious and in need of immediate medical attention, hundreds of students took his picture and resorted to broadcasting his dilemma via social media networks. Some would argue that these technologies have caused social disruption while others such as Dr. Neil Postman, would offer, “New technology can never substitute for human values.”²⁶ “Sometimes active bystander ship requires moral courage, acting on one’s values and beliefs in spite of potential and unlikely consequences.”²⁷

A recent article titled, “*Steubenville and the online bystander effect*,” outlines how the Bystander Effect played a role online after a 16-year old rape victim’s assailants posted messages of the victim making reference to her “dead like body.” Physical witnesses and online witnesses of the postings of this incident did nothing to assist her. The article depicts how the ease of use of cell phone photography and videography promotes a removal from situations and further substantiates the Bystander Effect.²⁸

With the evolving use of social media, young bystanders prefer to take pictures and videos and post the contents versus helping the victim. This phenomenon has had an adverse effect and parents should be aware to aid in its prevention. It has become so common that the British Columbia Police are taking action and threatened to charge 10

²⁵ Sam Sommers, “Why Crowds Make Us Callous,,” *Psychology Today*, October 19, 2011, www.psychologytoday.com/blog/science-small-talk/201110/why-crowds-make-us-callous.

²⁶ David DiSalvo, “Disruptive Technology Meets the Immigration Imagination,” *Psychology Today*, April 30, 2013, <http://www.psychologytoday.com/blog/neuronarrative/201304/disruptive-technology-meets-the-immigration-imagination>.

²⁷ Ervin Staub, “Our Power as Active Bystanders,” *Psychology Today*, January 12, 2012, <http://www.psychologytoday.com/blog/in-the-garden-good-and-evil/201201/our-power-active-bystanders>.

²⁸ Kathleen Parker, “Steubenville and the online bystander effect,” *The Washington Post Opinions*, March 19, 2013, http://www.articles.washingtonpost.com/2013-03-19-/opinions/37841997_1_bystander-effect-social-media-kitty-genovese.

years imprisonment to those who chose to post pictures of a sexual assault that occurred.²⁹

The ability to report suspicious and criminal activities occurring on mass transit is often compromised. The enclosed design of subway cars and buses is unique and poses a threatening environment in which customers may be reluctant to report suspicious and criminal activities. The suspicious activity or criminal act could actually be occurring in the seat next to or in the aisle a few yards away from the reporting customer and the perpetrator who committed the act is still on the scene during the incident until the subway or bus reaches another stop. The “*See/Say*” smartphone applications currently in use by MBTA, Santa Clara Valley Transportation Authority (VTA) and Metropolitan Atlanta Rapid Transit Authority (MARTA) are designed for discretion. The app automatically disables the flash capability on the phone and allows citizens to discreetly send photos of the suspicious activity as it is occurring. The use of these smartphone apps, allow passengers to remain vigilant without injuring themselves by intervening in a physical assault or fight.

Mass transit agencies can assist in reducing the Bystander Effect by equipping their customers with the tools needed to report these crimes or suspicious activities. Tools that will protect them with anonymity and reduce their fear of getting involved.

5. Barriers to Implementing Social Media Networks and Mobile Phone Applications for Reporting Suspicious and Criminal Activities

Exclusive research regarding the implementation of social media and mobile phone applications for reporting suspicious and criminal activities by law mass transit is nonexistent, although surveys, studies, blogs and online surveys conclusively report that staffing for these types of social media platforms is the primary barrier to adaptation by law enforcement agencies. Smaller law enforcements agencies do not have dedicated staffing or funding sources available to manage and maintain social media and mobile application platforms therefore, implementation of these networks remain a barrier.

²⁹ Third Parent, “Let’s Stop the Bystander Effect—Now,” *ThirdParent*, June 20, 2013, <http://www.thirdparent.com/lets-stop-the-bystander-effect-now>.

Although social media networks are free, the cost to train personnel to monitor and maintain these platforms outweighs the implementation of these networks. Due to lack of formal training, many agencies remain apprehensive to using social media networks. Studies reveal that many law enforcement professionals are self-taught and less than 8% have received vendor training.³⁰ Additionally, the LexisNexis Risk Solution study reports one third of law enforcement professionals believe in the value of social media and 60% believe that social media information is not credible. The study concluded that a lack of leadership support of the use of social media factored into the barrier for implementation. The research provided clearly indicates a need for academia research that delves into the psychological intolerance of adapting social media and mobile phone application technology.

6. Importance of Social Media Policies

The legalities surrounding the user privacy and protection of personal information is another barrier that agencies face when implementing social media networks. *Harnessing the Power of Social Media*, a leadership American Public Transportation Association (APTA) 2012 Team project reported that 72% of transportation providers did not have a social media plan or policy before implementing.³¹

An article in *The Police Chief Magazine - Social Media in Policing: Nine Steps for Success*, cited the importance of a social media policy due to the legal risks and management concerns associated with implementation of social media networks.³² Guidelines for acceptable content postings on Departmental sites as well as sanctions for misbehaving or misrepresentation of the department is imperative.

7. Conclusion

This literature review reveals widespread gaps of literature and academia research regarding the use of social media and mobile phone applications for reporting suspicious

³⁰ LexisNexis Risk Solutions, "Survey of Law Enforcement Personnel and Their Use of Social Media in Investigations," March 2012, www.lexisnexis.com/investigations.

³¹ APTA, "Harnessing the Power of Social Media," survey, 2012.

³² Lauri Stevens, "Social Media in Policing: Nine Steps for Success," *Police Chief Magazine*, February 2010: vol. LXXVII, No. 2.

activities on mass transit. Research and surveys like the TCRP Synthesis 99, which focus primarily on mass transit agencies, are exemplars that would serve this research area well.

Areas where academia research is nonexistent and definitive conclusions are needed to quantify are:

- whether the implementation of social media and mobile phone applications has increased customer reporting of suspicious or criminal activities
- how effectiveness of social media networks and smartphone applications for reporting suspicious and criminal activities is measured for success, failure and improvements.

THIS PAGE INTENTIONALLY LEFT BLANK

III. RESEARCH QUESTIONS

A. PRIMARY

1. **What is an Effective Methodology for the Integration of Social Media Networks and Mobile Phone Applications for Customer Reporting of Suspicious and Criminal Activities to Mass Transit Law Enforcement Departments?**

Law enforcement agencies across the country are adopting social networking technologies to connect with the public and communities they serve. Integrating social media networks and mobile phone applications will facilitate collaborative and cooperative relationships between mass transit law enforcement departments. The customers who ride mass transit have an expectation of safety and security while utilizing the system. The implementation of social media networks and mobile phone apps for reporting suspicious and criminal will allow mass transit law enforcement the ability to meet their expectations collaboratively.

The integration of social media networks and mobile phone applications can prove to be a powerful tool in fighting crime. A smartphone equips customers with tools needed to share evidence of crimes in real time or soon after the crime is committed. Digital multimedia recording features of smart phones and mobile data sharing allow customers to upload video images to share with law enforcement, the media and the community.³³

Recent surveys show social media and mobile phone application usage by law enforcement agencies is increasing. “The explosive growth and technological sophistication of smart phones and the surging popularity of social networking sites have empowered the general public and raised expectations regarding services provided by law enforcement, the ability to communicate with police and the transparency of the organization.”³⁴

³³ David J. Roberts, “Technology’s Impact on Law Enforcement—Community Interaction—Technology Talk,” *Police Chief Magazine*, February 2011: 78–82.

³⁴ Robert Stokes, "Technology's Impact on Law Enforcement - Community Interaction" *Police Chief Magazine*, (January 2013).

The 2012 IACP social media survey results highlight 56.3% of law enforcement agencies not currently using social media are considering implementation. The LexisNexis 2012 survey further demonstrates the increase of social media networks in its findings. According to the survey, 83% of current users anticipate using social media more, while 74% of those not currently using it indicated they intend to start using it.³⁵

Accenture's 2012 survey of approximately 1,300 citizens from Canada, Germany, the Netherlands, Spain, the United Kingdom and the United States demonstrates the belief that citizens have in digital tools. Citizens surveyed believe that digital tools can assist in the following ways:

- 72% of respondents believed that social media can aid in investigating crimes and prosecuting offenders
- 53% of respondents believe that social media usage by police can improve overall police services
- 47% of respondents believe social media can be used to prevent crime
- Digital channels offer low-cost communication between citizens and the police
- Digital tools allow police forces to free up more officers to be visible on the streets fighting crime
- Digital tools offer an efficient way to disseminate information, alerts and bulletins real-time to the public³⁶

2. Conclusion

The exponential growth of social media and mobile phone applications has become a part of daily use in society today. The 2012 IACP social media and LexisNexis survey substantiate in their findings the increasing use of these technologies by law enforcement agencies. The Accenture Survey demonstrates the public's view of the usefulness of these technologies to law enforcement. Although usage of social media networks and mobile phone applications are increasing and citizens find these tools

³⁵ LexisNexis Risk Solutions, "Role of Social Media in Law Enforcement Significant and Growing," LexisNexis . July 18, 2012, <http://www.lexisnexis.com/risk/newsevents/press-release.aspx?id=1342623085481181>.

³⁶ Accenture, "Are Policing Forces Maximizing Technology To Fight Crime and Engage Citizens, Survey," Market Connections, 2012.

useful, a gap in the existing literature exists in substantiating the effectiveness of these programs. Lack of data exists that supports whether these technologies are effective, therefore identifying an effective methodology for the integration of social media networks and mobile phone applications for reporting suspicious and criminal activities warrants further research.

B. SECONDARY

1. What Are the Types of Social Media Networks and Mobile Phone Applications Currently Being Used By Law Enforcement and Mass Transit Law Enforcement Departments and How Are They Being Used to Report Suspicious or Criminal Activities?

Law enforcement agencies are increasingly using social media and information obtained from mobile phone crime tips to solve crimes. In March 2012, LexisNexis Risk Solutions conducted an online study of 1,221 law enforcement professionals from the federal, state and local sectors to determine the current use of social media in the law enforcement community. The *Survey of Law Enforcement Personnel and Their Use of Social Media in Investigations* identified that social media is widely used for investigations with 69% of law enforcement professionals using it for this purpose. Crime anticipation tactics such as identifying people and locations, discovering criminal activity and gathering evidence ranked the next highest with 41% in social media usage.³⁷ The survey revealed that only 22% of law enforcement agencies are using social media for soliciting crime tips.

Law enforcement use social media for a variety of methods to obtain information to help solve crimes. The 2012 LexisNexis study revealed that social media is assisting law enforcement in solving crimes in the following ways:

- Evidence collection—postings/pictures may reveal a criminal activity
- Criminal location—”checking in” on Facebook reveals a detailed account
- of locations you have visited or tend to frequent

³⁷ LexisNexis Risk Solutions, “Survey of Law Enforcement Personnel and Their Use of Social Media in Investigations,” March 2012, www.lexisnexis.com/investigations.

- Identification of criminals—YouTube videos is used to identify suspects and assist in investigations.
- Criminal monitoring—Activities are monitored via networks such as Facebook, and even friends and families pages may reveal criminal conduct of suspects
- Managing emerging threats—Social media networks are monitored for prevention of organizing riots and protests

Additionally, the LexisNexis survey demonstrates how social media is currently used by law enforcement agencies. Current uses of social media are outlined in the following ways:

- 4 out 5 officers use social media for investigations
- Other use of social media includes community outreach, soliciting crime tips and notifying the public and recruitment
- Investigative activities using social media include identifying associates affiliated with persons of interest, locating criminal activities, gathering photos or statements to corroborate evidence, identifying criminal activity, persons of interests, monitoring person of interest's whereabouts, soliciting crime tips, anticipating crimes that may be occurring, understanding criminal networks and utilizing information obtained from social media as probable cause for search warrants

Facebook, YouTube, and Twitter were popular and utilized by law enforcement on a monthly basis. In regards to training of law enforcement on social media usage the survey revealed the following:

- 80% of law enforcement personnel are self taught
- Many officers utilize knowledge obtained from personal use
- Officers were trained by colleagues familiar with social media
- Many officers obtained how to knowledge from online sources
- Training was obtained from a seminar or conference on the use of social media
- Many officers received training given at their respective agencies

Local agencies rank the highest amongst use of social media for investigative purposes at 81%. Federal and state agencies followed with 81% and 71% use respectively. The study also revealed that agencies with smaller populations and fewer personnel utilize social media more often. An overview of law enforcement's use of social media is depicted in Figure 2.



Figure 2. Social Media Use In Law Enforcement Investigations (LexisNexis Risk Solutions 2012)

Social media has become a daily part of many lives. Nearly everyone has a smartphone and utilizes some type of social media platform. Law enforcement agencies must embrace these technologies in order to communicate with the community they serve. The daily use of social media by the public has afforded law enforcement an open window that reveals pieces of their daily lives. Posts, pictures, status updates, and check in locations on Facebook, and other media sites enable law enforcement agencies to gather and collect information. According to the 2012 LexisNexis Survey, “*Survey of Law Enforcement Personnel and Their use of Social Media in Investigations*,” Facebook and Twitter were the most used social media sites.³⁸

According to Instant Checkmate Blog *5 Ways Police Use Social Media to Solve Crime* written by Ashley Walker, police are turning to social media for gathering information for the following reasons:

- Location Tracking—Facebook statuses provide physical locations of people. Police are able to track suspects and victims based upon their status updates.
- Events Leading Up To The Crime—Police use social media profile information to track what they were doing and where they were going during the time leading up to a crime
- Close Friends Or Relatives—Profile information of suspects or victims on social media sites reveal information about their family and friends. Police use this information to obtain information or clues about crimes
- Accomplices—By investigating a suspect’s social media profile police can determine whether a suspect acted alone or with assistance. Interactions and conversations exchanged can provide information on those involved.
- Background Information—Background information reveals the most intimate details about a suspect or victim. By scanning a person’s profile years of history can be obtained to assist police for investigatory purposes.³⁹

³⁸ LexisNexis Risk Solutions, “Survey of Law Enforcement Personnel and Their Use of Social Media in Investigations,” March 2012, www.lexisnexis.com/investigations.

³⁹ Ashley Welter, “5 Ways Police Use Social Media To Solve Crime,” *Instant Checkmate Blog*, August 1, 2013, <http://www.blog.instantcheckmate.com/5-ways-police-use-social-media-to-solve-crime>.

The use of graphics such as b department as well as the “Making History” board, which featured the history of the department photos and information, had over 600 followers.⁴⁰

Twitter is widely used by many people and is increasingly becoming popular with law enforcement. Few mass transit agencies have adopted Twitter. These include the Massachusetts Bay Transportation Authority (MBTA) and the Washington Metropolitan Area Transit Authority Metro Transit Police Department (MTPD).

MBTA Transit Police has 14,056 followers and launched its Twitter account in 2010 after a passenger took a photo and posted it to the MBTA hash tag, resulting in the person being arrested. The MBTA in an effort to show their commitment to using social media created the Twitter account to provide a public tip line.⁴¹

The MTPD launched its Twitter account in July 2013 and currently has 2,204 followers. The MTPD Twitter account is not monitored 24/7 and users are directed not use Twitter to contact the Police. 911 and an alternate number are provided to contact the police directly.

MBTA also states on their Twitter account that emergencies should not be reported through the site and the police contact number is provided.

C. CONCLUSION

The LexisNexis survey along with implementation of social media by law enforcement agencies across the country, demonstrate that these tools are assisting in solving and preventing crimes. The various numbers of Twitter followers from the aforementioned agencies clearly show progressive approval from the communities that these law enforcement agencies serve.

⁴⁰ Noelle Knell, “Police Use Pinterest to Combat Street Drug Proliferation,” *Government Technology*, February 22, 2013, <http://www.govtech.com/Police-Use-Pinterest-to-Combat-Street-Drug-Proliferation.html>.

⁴¹ Homeland Security News Wire, “Boston Police Using Twitter to Nab Bad Guys,” *Homeland Security News Wire*, August 10, 2010, <http://www.homelandsecuritynewswire.com/boston-police-using-twitter-nab-bad-guys>.

Twitter is easy to use, fast and free. It allows law enforcement to be visible without being seen and communicate with the public through their means of communication. Although Twitter has been implemented by mass transit law enforcement agencies such as MBTA and the MTPD, both agencies discourage customers from tweeting crime tips and suggest that crimes be reported directly. It is unclear why mass transit agencies are reluctant to take advantage of yet another means to connect and engage with the public and there is a gap in the research that either supports or refutes whether this hinders customers from utilizing these social media networks for reporting crime.

1. In Which Ways Has the Use of Social Media Networks and Mobile Phone Applications Increased Reporting of Suspicious or Criminal Activities?

Social media networks and mobile phone applications have increased reporting of suspicious or criminal activities through a variety of ways. The use of Twitter has allowed police departments to communicate in “real time,” providing information such as missing person information, BOLOs of wanted or suspected criminals and crime prevention tips.

The Philadelphia Police Department used YouTube to solicit the public’s help when a woman assaulted another passenger aboard a bus. The surveillance video of the incident was posted on the YouTube site and immediately received 120,000 hits which led to a tip that identified the suspect and resulted in an arrest. Philadelphia officials report since February 2011, 85 cases have been solved utilizing the YouTube network.⁴²

In October 2012, the Department reached a milestone and reported making its 100th arrest utilizing information posted on social media accounts such as Twitter, Facebook and YouTube. YouTube enables video to be streamed of crimes in progress allowing for tips to be solicited from the public. The police department reports receiving

⁴² Eugene Aronsky and Moshe Zchut, “Law Enforcement and Social Media,” *Top SEO Blog*. September 26, 2012, <http://www.netlz.com/seo-blog/2012/09/26/law-enforcement-and-social-media>.

over 6,500 tips in February 2013.⁴³ Social media networks have made it easy for the police and the community to work together in solving crimes and making communities safe. Twitter feeds allow law enforcement to post information such as BOLOs and missing children. Facebook allows the police to post videos and image links for wanted or suspicious persons. YouTube provides video footage of suspects or crimes and the police are able to solicit crime tips from the public.

Smartphone crime applications have allowed the public to report suspicious or criminal activities in real time. Research indicates that 50.6% of mobile users in the United States use their mobile phones to take pictures while 19.2% use them to take videos.⁴⁴

Using smartphone applications to report suspicious activities and crime on mass transit would prove to be beneficial for transit commuters. Crime reporting applications provide commuters with a quick, discrete and safe way of crime reporting. The applications allow customers with a touch of a button to report ongoing crimes or suspicious activities directly to mass transit law enforcement officers. During a time when customers are rushing to get to and from their destinations and they witness a crime afoot, smartphone crime apps allow a convenient and anonymous way for them to report the crime without their safety being compromised. The close proximity to suspects and enclosed environments of mass transit trains and buses does not always afford customers with the option to visibly pick up their phones to call 911 without the suspect noticing and thus putting themselves in harm's way. Eman Pahlvevani, co-founder of CrimePush stated:

There are often tense situations when calling the police is not an option. There are other times when inconvenience or fear of reprisal prevents one from reporting an incident. Featuring the ability to take a photo, record video and audio and provide a description of the incident, citizens can

⁴³ Frank Domizio, "Case Study: Philadelphia, Pennsylvania, Police Department—Thoughts on Content, Data, Analysis and Media," *IACP Center for Social Media*, February 6, 2013, [http://www.iacipsocialmedia.org/Resources/Case Study](http://www.iacipsocialmedia.org/Resources/Case%20Study).

⁴⁴ David J. Roberts, "Technology's Impact on Law Enforcement - Community Interaction—Technology Talk," *Police Chief Magazine*, February 2011: 78–82.

now be assured that their phone has the capability to alert family, friends and the authorities at the push of a button, should a threat arise.

2. Conclusion

Providing social media platforms allow for the public to report crime in a variety of ways while building trust between the police and the community. Oftentimes citizens want to report crime but fear the ramifications of getting involved. By providing an anonymous means of crime reporting citizen involvement is enhanced while increasing crime prevention as well. Agencies such as the Philadelphia Police Department have documented successes of crimes reported and closed via Facebook, Twitter and YouTube. Not only have these social media platforms aided in case closures and arrests but have also led to an increase of crime tips from citizens. Social media not only illicit's crime tips from the public but it also pushes out important information involving the community as well. It is a give and take mechanism which in turn builds partnerships. Even with these discreet measures in place for reporting suspicious and criminal activities, barriers exist that continue to prevent the public from reporting suspicious and criminal activities.

3. What are the Barriers That Prevent the Public From Reporting Suspicious and Criminal Activities?

The Nationwide Suspicious Activity Reporting Initiative defines suspicious activity as “observed behavior reasonably indicative of pre-operational planning related to terrorism or other criminal activity.”⁴⁵

Social media networks and mobile phone applications are designed to provide a seamless collaboration of information sharing but barriers that prevent the public from reporting suspicious and criminal activities remain. Just as there is an expectation for law enforcement to receive information from the public to aid in solving crimes, the public in return want to know what the police are doing.

⁴⁵ Information Sharing Environment, “Functional Standard Suspicious Activity Reporting: Version 1.5,” May 21, 2009, <http://www.dhs.gov/xlibrary/assets/privacy/-pla-dhswide-sar-ise>.

According to a 2012 online survey conducted by Accenture, citizens want to help prevent and fight crime but they also want greater access to information.⁴⁶ Accenture's survey of approximately 1,300 citizens from Canada, Germany, the Netherlands, Spain, the United Kingdom and the United States revealed that 88% believed they play an important role in reporting crime. Citizens also stated that a communication gap exists between the police and citizens and identified implementing social media is key to bridging the gap and increasing citizen involvement in reporting crime.

In 2010, in an effort to improve public awareness and reporting of suspicious activities, IACP conducted research regarding the motivations and barriers that exist in the public's ability to report suspicious activity. The following strategies were recommended to improve the public's reporting of suspicious activity:

- Emphasize that community safety is a shared responsibility
- Engage the community in planning and promoting local campaigns
- Inform the public about the indicators of terrorism planning
- Address your community's privacy, civil rights and civil liberties concerns
- Leverage technology to promote anonymous methods of reporting
- Adopt simple and accessible methods to promote suspicious activity reporting
- Respond quickly to reports and follow up
- Improve efforts by seeking feedback and tracking successes and challenges⁴⁷

IACP's primary research revealed the following factors that people rely on in determining if an activity, behavior or object is suspicious and should be reported:

- Concern about the potential for harm to the community
- Belief that the information may be useful to law enforcement
- Personal observation of activities
- Personal instinct

⁴⁶ Accenture, *Are Policing Forces Maximizing Technology To Fight Crime and Engage Citizens*, Survey, Market Connections, 2012.

⁴⁷ FEMA, "A Resource Guide to Improve Your Community's Awareness and Reporting of Suspicious Activity," *FEMA*. February 201, <http://www.fema.gov/media-library/assets/documents/24352>.

- The agreement of others nearby that something is not right⁴⁸

Terrorists have a tendency to target soft target critical infrastructures such as transportation systems. Policing in the transit environment is challenging. Transit police officers are not assigned to every station due to manpower constraints and oftentimes the citizens that ride the system are the first observers of suspicious behaviors and activities. Ensuring the public's awareness and reporting of suspicious activity is vital. Public awareness through outreach campaigns and literature such as posters in subway stations and on buses will educate the public on types of activities that are considered suspicious. Public service announcements will specifically detail "who and how" to report suspicious activity.

Examples of cases where crime-reporting tips have led to the capture of cases are increasing. For example, in May 2009, an employee in New Windsor, New York reported that a group of men had met over 20–30 times within a few days at storage unit. The storage unit contained bomb-making supplies and they were planning to also shoot down planes from the Stewart Air National Guard Base in New York. The four men involved in the plot were captured and charged with conspiracy to use weapons of mass destruction and use anti-aircraft missiles.

Another thwarted plot in 2010, involved a report of smoke coming from an abandoned vehicle by a New York street vendor. Authorities followed up on the report and discovered a homemade bomb in the vehicle and were able to alert the public before it detonated. The suspect involved was captured and plead guilty to multiple charges including attempted use of a weapon of mass destruction and attempted terrorism.⁴⁹ These examples validate how public feedback makes a difference. In order to increase citizen reporting of suspicious and criminal activity, it is incumbent upon law enforcement to educate the public on what is or is not suspicious. Identifying what to report as suspicious or criminal will encourage citizens to confidently report these activities to law enforcement.

⁴⁸ Ibid., 2.

⁴⁹ FEMA, "A Resource Guide to Improve Your Community's Awareness and Reporting of Suspicious ." *FEMA*, February 3, 2012, <http://www.fema.gov/media-library/assets/documents/24352>.

Common barriers exist regarding why citizens hesitate to report suspicious activity. Survey respondents reported the following barriers:

- They were worried about getting innocent people in trouble
- They were uncomfortable with judging fellow citizens
- Believed calling the police would be a waste of resources
- Mistrust of law enforcement
- They wanted to avoid being wrong or appearing foolish in the eyes of law enforcement⁵⁰

Another barrier that prevented citizens from reporting crime was the manner in which they had to report it. Thirty-six percent of survey respondents reported fear of retaliation as a barrier.⁵¹ Citizens want to remain anonymous when reporting suspicious activities or crime. Social media and smartphone applications afford the opportunity to provide anonymity for their customers.

In 2007, the Boston Police Department became the first agency to provide customers with the ability to text crime tips. Since the program's inception, the Department has received 4,000 text tips.⁵²

In June 2011, the New Jersey Transit Police introduced its "Texting against Terror" program. The idea was generated by the Department's chief of police in an effort to provide a safe mechanism for customers to report suspicious activities and crime. The program has proven to be successful and has received 307 messages since the program began. "Chief Christopher Trucillo stated:

Our customers are in a closed, tight environment; we're asking them to report suspicious behavior, but we have to make it safe for them. They

⁵⁰ Andrew Becker and G.W. Schulz, "Citizens fear reporting suspicious activity will hurt the innocent," *California Watch*, April 25, 2012: 1-6.

⁵¹ FEMA, "A Resource Guide to Improve Your Community's Awareness and Reporting of Suspicious Activity," *FEMA*, February 15, 2012, <http://www.fema.gov/media-library/assets/documents/24352>.

⁵² *Ibid.*, 13

may not feel comfortable picking up the phone when someone is sitting two seats away. Text tips are convenient.⁵³

Text message and web based reporting systems are in use with many law enforcement agencies around the world. FEMA's *Resource Guide to Improve Your Community's Awareness and Reporting of Suspicious Activity* survey results reveal the public has begun to embrace these technologies. Respondents reported the following:

- 34% reported using cell phone mobile applications
- 30% reported using cell phone text messaging
- 25% reported using a government approved website⁵⁴

4. Conclusion

The implementation of social media networks and mobile phone applications for mass transit law enforcement departments will decrease crime and increase community involvement. The use of social media networks and mobile phone applications would provide customers who ride mass transit with an anonymous means for reporting suspicious and criminal activities. The ability to report suspicious and criminal activities discreetly would not only reduce customer fears of reporting crime but would build community trust between law enforcement and the community they serve. Citizens have demonstrated a desire to assist law enforcement in reporting suspicious and criminal activities. By leveraging technologies such as implementing smartphone applications and web-based networks to report crimes, law enforcement and community collaboration will minimize barriers that exist in suspicious activity and crime reporting.

⁵³ Homeland Security News Wire, "New Jersey Texting Against Terror Program a Success," *Homeland Security News Wire*, . October 11, 2012, <http://www.homelandsecuritynewswire.com/dr20121011-new-jersey-texting-against-terror-program-a-success>.

⁵⁴ FEMA, "A Resource Guide to Improve Your Community's Awareness and Reporting of Suspicious Activity," *FEMA*, February 2012, <http://www.fema.gov/media-library/assets/documents/24352>.

5. What are Barriers That Exist in the Implementation of Social Media Networks and Mobile Phone Applications For Reporting Suspicious and Criminal Activities By Law Enforcement and Mass Transit Law Enforcement Agencies?

Implementation of social media networks and mobile phone applications can have both positive and negative implications. Lack of resources, liability for misuse by personnel along with privacy and security concerns were all cited as barriers for engaging in social media by law enforcement.

A synthesis study conducted by the Transit Cooperative Research Program specifically focused on the use of social media in public transportation concludes Facebook and Twitter were key to providing information to riders about services and fares but information regarding the implementation of reporting suspicious or criminal activities using these networks was limited due to the many barriers that mass transit agencies reported regarding implementation of social media networks and mobile phone applications.⁵⁵

Personnel resources for these types of social media platforms are the primary barriers to adaptation by mass transit law enforcement agencies. Smaller law enforcement agencies tend to not have dedicated staffing or funding sources available to manage and maintain social media and mobile application platforms, therefore implementation of these networks remain a barrier.

Employee access to social media was a concern regarding implementation of social media networks. While many employers believed that social media tools encourage communication and collaboration, others were concerned about lost productivity, cyber security threats, and risks to reputation.⁵⁶ Restricting access and managing employee access to social media networks should be outlined in the agency's social media policy to ensure compliance and guidelines.

⁵⁵ Transit Cooperative Research Program, "TCRP Synthesis 99: Uses of Social Media in Public Transportation," [May 3, 2012]).

⁵⁶ Ibid., 23.

Mass agencies may choose not to implement social media due to the increased interaction it creates with the public. Fear of online criticism was a major barrier to implementing social media with 60% of respondents considering this very important.⁵⁷ The key word describing the difference between Social Media and conventional communications is *engagement*.” “The premise of Social Media is a dynamic, interactive conversation between you the transportation provider and your customers.” “This interactivity is at the core of both the benefits and the risks of Social Media.”⁵⁸

With limited personnel resources to monitor and respond to feedback from customers, many agencies fear they will be overwhelmed by comments. To minimize and effectively manage customer feedback, “agencies can choose to only allow the public to comment on their posts on social media platforms such as Twitter.⁵⁹ Additionally, agencies may reserve the right to delete or edit offensive content. For example, St. Louis metro Transit posts this disclaimer as part of its blog comment policy:

Editors reserve the right to modify or delete any comments that don’t conform to our guidelines below or that we deem otherwise inappropriate, and we will ban commenter’s who cannot follow the rules (with or without warning).⁶⁰

Although social media networks such as Facebook and Twitter are free accounts, the cost to train personnel to monitor and maintain these platforms outweighs the implementation of these networks. Due to lack of formal training, many agencies remain apprehensive to using social media networks. Studies reveal that many law enforcement professionals are self-taught and less than 8% have received vendor training.⁶¹

⁵⁷ Transportation Research Board, “TCRP Synthesis 99—Uses of Social Media in Public Transportation,” *TCRP*, May 3, 2012, 24.

⁵⁸ Debbie Chin et al., “Harnessing the Power of Social Media,” *APTA*, 2012, <http://www.apta.com/mc/annual/previous/2012/presentations/Presentations/Team-Three-Social-Media-Final-Report.pdf>.

⁵⁹ Wayne Hanson, “How Social Media Is Changing Law Enforcement,” *GovTech*, December 2, 2011, www.govtech.com/public-safety/How-Social-Media-Is-Changing-Law-Enforcement.

⁶⁰ Transportation Research Board, “TCRP Synthesis 99—Uses of Social Media in Public Transportation,” May 3, 2012, 24.

⁶¹ LexisNexis Risk Solutions, “*Role of Social Media in Law Enforcement Significant and Growing*,” Lexis Nexis . July 18, 2012, <http://www.lexisnexis.com/risk/newsevents/press-release.aspx?id=1342623085481181>.

Employees may not feel confident to oversee and manage these technologies due to lack of training. Soliciting employees who are familiar and utilize social media platforms is a start. Solicit those who are dedicated and technologically savvy. Hiring a social media consultant would help overcome these obstacles as well. Once you commit, remain committed. If you do not plan to monitor your social media platforms 24/7, inform the public. By doing so you are making them aware of your timeliness in responses to their comments and concerns.

Having law enforcement officers attend conferences such as the “*Social Media, the Internet and Law Enforcement*” (SMILE) Conference provides officers with tools on how to use Facebook, Twitter and other social media networks. Topics covered during the conference include posting policies, issuing alert and meeting public expectations. Best practices from other law enforcement agencies that have implemented social media networks across the country are shared and others can learn from the success or failures of the experiences at a minimal cost.

Additionally, the LexisNexis Risk Solution study reports one third of law enforcement professionals believe in the value of social media and 60% believe that social media information is not credible.

Overall, the study reports that a lack of leadership support of the use of social media factored into the barrier for implementation. Key players within the organization may oppose it due to the various options and platforms to choose from. Deciding which platform would better serve the organization may prove to be challenging and may offer varied consensus. Executives may be reluctant to implement due to the exposure that these platforms create. They may not be prepared to address “negative comments” that may be received from customers. They may feel inadequate to address these comments and overshadows the potential value of utilizing social media technologies. Leaders must realize that conversations about the organizations successes or failures are occurring with or without their input. These challenges should be viewed as opportunities to be used to their advantage.

Social media networks can be viewed by the public as both positive and negative leading to reluctance of police departments to utilize these technologies. Officer's comments and posts on platforms such as Facebook and Twitter contribute can contribute to lack of public support. Actions of officers posted on YouTube have proven to be unfavorable in the public's eye as well. Police departments should be cognizant of what is being posted on social media networks and consequences of negative actions of officers should be properly outlined in the agency's social media policies.

Mass transit agencies will realize the significant benefits for implementing social media technologies and mobile phone apps when they can see tangible results such as reduction of crime, reduction of expenditures such as overtime generated by case investigations, retrieval of Digital Video Recordings for photos of suspects and suspicious persons and the elimination of paper reports. Real time information such as crime tip information and photos will be readily at law enforcements disposal. These technologies will also enhance citizen reporting of crimes and suspicious activities by providing a user friendly and discreet method to empower customer collaboration.

In a recent article written for the IACP, Police Chief Billy Grogan of Dunwoody, Georgia outlined the following reasons for implementing social media:

- Social media networks offer a natural platform for extending community policing
- Social media networks provide a way for police departments to promote positive accomplishments
- The popularity of social media networks make them hard to ignore

Additionally, Chief Grogan wrote, "Embracing social media is the smartest decision law enforcement can make today. The need is there. The people are there. Why aren't you and your department?"⁶²

Privacy concerns have posed as a barrier to implementing social media as well. Although social media networks have demonstrated success in police communication between the public despite these benefit, questions regarding legalities of their usage still

⁶²Wayne Hanson, "How Social Media Is Changing Law Enforcement," *GovTech*, December 2, 2011, www.govtech.com/public-safety/How-Social-Media-Is-Changing-Law-Enforcement.

arise. A common question raised in both the United Kingdom and the United States is whether governments and law enforcement agencies violate one's rights to privacy when they monitor social media platforms.

Generally, tweets and posts on Facebook and Twitter are fair game in both countries. In the United States, officials cannot access a private social media account without going through the proper legal channels. This protection is guaranteed under the 4th amendment right against unreasonable searches and seizures. This is not the case in the UK. Users of Facebook and Twitter and other social media platforms share pieces of information about themselves unknowingly. By posting public pictures, their whereabouts and tweeting their activities, citizens are unknowingly leaving clues for law enforcement that are potentially incriminating. Law enforcement agencies are constantly monitoring social media sites for anticipated crimes such as gang activities and rioting activities. Privacy rights and civil liberties are constantly scrutinized by the public in both countries. The policies that govern law enforcement access are universal in both the UK and the United States.

Facebook discloses publicly on its site that law enforcement can obtain content information. Unfortunately most people do not actually read the disclosure. Law enforcement can obtain with a subpoena or court order a suspect's wall posts, uploaded photos, tagged photos by friends, list of Facebook friends, and login and Internet Protocol (IP) data.

When it comes to private information, Facebook has policies that law enforcement must comply with. A subpoena or warrant must be obtained before information such as profiles is released. Twitter on the other hand is reluctant to turn over user information. Twitter's litigation lead Benjamin Lee tweeted the following:

Twitter users own their Tweets. They have the right to fight invalid government requests, and we continue to stand with them in that fight.⁶³

⁶³Heather Kelly, "Police Embrace Social Media As Crime-Fighting Tool," *CNN.com*, August 30, 2012, <http://www.cnn.com/2012/08/30/tech/social-media/fighting-crime-social-media>.

Regarding the Fourth Amendment, Facebook users forfeit any expectation of privacy when they share postings online with their friends and when they post information online with third party users. . Both the UK and United States unfortunately have outdated policies that govern legalizes, privacy and civil liberties. The *Electronic Communications Privacy Act* was passed in 1986 and does not address the evolving social media data technologies. When the act was passed over 26 years ago email was stored on a personal computer and not on a “cloud” or third party servers. Cloud based information has not been addressed legally. . Similarly, in the UK the *Regulation of Investigatory Powers Act 2000 (RIPA)* is outdated as well. Social media technologies have evolved since it was created over 12 years ago and the existing language in the doctrine is not clear as far as retrieval of communications data (CD). Privacy is not clearly defined within the UK and has changed with social media technologies. Overall, privacy policies in both the United States and the United Kingdom should be updated or re-written and should contain details on how to protect citizen’s privacy, civil rights and civil liberties.

- The benefits of implementing social media networks and smartphone applications outweigh the obstacles. The solutions for overcoming the obstacles of implementing social media are obtainable and can be achieved in the following ways: Lack of dedicated resources to monitor social media can be solved by re-allocating resources and assigning personnel to oversee these channels
- Training of personnel can be achieved by having a limited number of people attend social media seminars or training. Once trained, the train the trainer approach may be taken and the previously trained personnel can be used to train others which is cost effective
- Overcoming negative cultural mindset associated with implementing social media can be addressed by positive motivation from executive leadership. By educating themselves and actively participating in the use of social media, leaders can promote the value of social networking

5. Conclusion

Although many barriers exist to implementing social media networks and mobile phone applications law enforcement agencies should not be dissuaded. These barriers are not insurmountable as demonstrated in the vast number of law enforcement agencies across the world that are currently utilizing and finding social media as an invaluable

successful tool. The pros to implementing social media and mobile phone applications for reporting suspicious and criminal activities on mass transit far outweigh the barriers to using these technologies. Suggestions for overcoming these barriers are outlined in the following chart.

Table 1. Barriers to Implementing Social Media Networks and Smartphone Applications

<i>PROS</i>	<i>CONS</i>	<i>SOLUTIONS</i>
Engages customers/interaction	Lack of dedicated resources to monitor social media networks	Assign dedicated personnel to manage and oversee social media network/re-assign resources
Solicits public feedback	Lack of formal training of personnel to oversee social media networks	Allow a limited number of training staff to receive formal training. Once trained, use the train the trainer approach and have those members train the remaining personnel – more cost effective
Provides an anonymous means for customers to report suspicious activities and crimes directly to law enforcement	Negative cultural mindset to see the value in the use of social media and mobile phone application technologies/lack of leadership support	Encourage executive leaders to educate themselves and actively engage in social media personally to promote the value of networking with the community, have them highlight success stories of other agencies and best practices expanding upon lessons learned and ensure they encourage and support all implementation measures
Increases information and communication between law enforcement and the community	Lack of support from IT staff	Information technology staff concerned with the systems vulnerability to cyber threats should ensure that the computer system has malware and spam protection and systems should be checked and scanned for viruses constantly
Prevents and reduces crimes	Management of user access	Development of a Departmental policy will ensure that employees adhere to guidelines between professional and personal use of the social media site
Social media networks are free	Lack of motivation for citizens to report crime overall/get involved	Address why citizens are reluctant to report crimes and encourage them through public outreach campaigns the importance of reporting suspicious activities and crimes. Promote how through social media and mobile phone applications suspicious and criminal activity crimes can be reported discreetly
Mobile phone applications may be grant funded		
Social media and mobile phone apps aid in the investigation of crimes by law enforcement		
Social media provides “real time” information versus the media		
Assists law enforcement agencies in sending out alerts to locate/BOLOs/missing children		
Digital multimedia capabilities of Smart phones allow mobile data sharing of video images to law enforcement, the media and the community regarding public safety		

6. Review of How Successful Social Media and Smartphone Applications Have Been in Reporting Suspicious and Criminal Activities, Solving Cases, Criminal Investigations and Arrests

Law enforcement agencies across the country have found success in fighting crime by implementing social media and smartphone applications. Social Media networks such as Facebook, Twitter, YouTube, Instagram and a host of other platforms have enabled law enforcement to monitor and listen to the public based upon the information they share through these networks. There is no question that social media networks and smartphone applications have changed the way police interact with the public. During the Boston Marathon Bombings in April 2013, in the United States, social media played a key role in the successful collaboration of communication between the police and the public.

Facebook, Twitter and other social media platforms have become essential communications tools for police, and the events surrounding last month's Boston Marathon bombing indicate just how far police have come in engaging proactively with social media to achieve operational (and non-operational) outcomes.⁶⁴

Social Media has afforded law enforcement to communicate "real time" with the public and has provided a platform for them to solicit help from the public to find missing persons or suspects other than previous methods of sharing wanted ads through the local news.

New York State Police found success using Facebook, Twitter and YouTube in their crime fighting endeavors. The agency posts sketches of criminals to announcing upcoming community events. YouTube was implemented to increase solicitation of crime tips from the public. Over the past year the Department has had over 40 identifications that have led to an arrest.⁶⁵ Just like most other law enforcement agencies, none of these social media sites are monitored 24/7 and the department encourages the public to call 911 for emergencies.

⁶⁴ Alyce McGovern, "Crime-fighting, Twitter and the Boston Bombing," *The Crime Report*, May 7, 2013, <http://www.thecrimereport.org/viewpoints/2013-05-crime-fighting-twitter-and-the-boston-bombing>.

⁶⁵ Heather Ly, "Police Agencies Using Social Media to Solve Crimes," *WGRZ 2 News*, February 2013, 2013, <http://www.wgrz.com/rss/article/202822/13/Police-Agencies-Using-Social-Media-to-Solve-Crimes>.

New York Police Department used photos from Facebook and other social media sites in an effort to get guns off the street. In 2012, the police were able to confiscate 199 guns by searching these sites. Clues from the photos such as contraband, weapons, gang members throwing up gang signs and exchanges of threatening gang activities amongst rivals lead to the seizure of many of these weapons.⁶⁶ Deputy Inspector Joseph Gulotta stated the following:

If you gather intelligence, you will get the guns off the street. It's about targeted enforcement. It's about focusing on the guns and the crews.

Cell phone technology has enabled the public to aid law enforcement agencies across the world in identifying suspects and solving crimes. By using cell phone photos and videos posted by the public on Facebook, Twitter, YouTube and Flickr, the Seattle police were able to identify five suspects involved in the 2012 May Day Riots.⁶⁷

Many law enforcement agencies utilize social media sites such as Facebook and Twitter to locate missing children daily. For example, the Maryland Center for Missing and Unidentified Persons reported that one in three children are located because their photo was recognized on these social media sites. Facebook and Twitter are used to solicit the public's help and raise awareness regarding the missing children. Facebook features missing children from states, county or municipal police departments and receives approximately 150,000 views per week. Twitter is used exclusively for child abductions accompanied by an activated Amber Alert. Information relating to the suspect such as vehicle information is posted to assist the public in identifying the abductor.⁶⁸ The agency reports that social media has proven to be successful in locating both children and adults.

⁶⁶Simone Weichselbaum, "Crime fighters in Brooklyn are using social media to catch dumb gangsters flaunting illegal weapons," *New York Daily News*, February 6, 2013, <http://www.nydailynews.com/new-your/cops-social-media-guns-streets-article-1.1257445>.

⁶⁷Michelle Esteban, "In Digital age, social media becoming valuable police too," *KOMO News.com*, February 24, 2013, <http://www.komonews.com/nes/local/Police-social-media-becoming-valuable-crime-fighting-tool-204599961.html>.

⁶⁸Cumberland Times News, "Social media valuable tool in locating missing children," *Cumberland Times News*, June 10, 2013: 1, <http://www.times-news.com/local/x1999356102/Social-media-valuable-tool-in-locating-missing-children>.

Twitter became a useful tool for law enforcement after the Boston Marathon bombings in April 2013. The Boston Police Department's Twitter account increased from 54,087 to 332, 219 over a three-week period, resulting in a 500%. This crowd sourced methodology ultimately lead to the arrests of the bomber involved. The police received thousands of images and videos from the public taken from their smart phones. These photos helped the police piece together the crime scene and the quick flow of information led to the suspect, Dzhokhar Tsarnaev's arrest within three days. The smart metadata located in cell phone images helped Photos submitted provided exact geo-location.⁶⁹

Gang members use social media networks such as MySpace, Facebook and Twitter on a daily basis. The utilize platforms such as these for recruiting, to convey threats to rivalry gangs as well boasting about past crimes. Law enforcement has been able to use the gang member's personal associations, posted pictures, videos and incriminating exchange of communication to their benefit.

In 2008, the Cincinnati Police Department arrested 71 people after a nine-month investigation using social media platforms. Information obtained from these sites, existing police and phone records was collected, placed in a database for analysis and to establish links between the suspects.⁷⁰

On January 5, 2013, the MBTA Transit police, with the help of anonymous smartphone app texts and text a tip messaging were able to identify two suspects who attempted to sell firearms at its Airport Station. Police officials posted information about the incident and provided the public with the information on how to provide tips through the smartphone *See & Say* app and the text message tip line.⁷¹

According to the IACP 2012 Social Media Survey results, social media tools have increased law enforcement agencies ability to solve crimes. In 2012, agencies reported an

⁶⁹ Mary Dumon, "Crowdsourcing Approach Leads to Arrest of Bombing Suspect," *Technorati*, April 20, 2013, 2, <http://www.technorati.com/technology/article/crowdsourcing/approach-leads-to-arrets-of>.

⁷⁰ Heather Kelly, "Police Embrace Social Media As Crime-Fighting Tool," *CNN.com*, August 30, 2012, <http://www.cnn.com/2012/08/30/tech/social-media/fighting-crime-social-media>.

⁷¹ Boston CBS Local, "Two Men Suspected in Attempted Gun Sale on MBTA," *Boston CBS Local.com*, January 5, 2013. <http://www.boston.cbslocal.com/2013/01/05/two-men-suspected-in-attempted-firearms-sale-on-mbta>.

increase of 74% up from 56% in 2011 and 45.3% in 2010 respectively. The report also revealed that social media helped to improve police community relations by 64% in 2012 indicating an 11% increase from 2011.⁷²

Social Media is helping law enforcement strengthen their relationships with the communities they serve. Nancy Kolb of the IACP Center for Social Media stated:

The exponential growth and popularity of social media and its effectiveness of communicating with a community is helping law enforcement departments across the U. S. to redefine what community policing is. Social media is not only helping community-policing rise to a new level, it is also helping the police to directly engage citizens.⁷³

According to “The Social Media Beat—Law Enforcement’s Use of Social Media and the Perception of Rising Crime,”

Community Policing transformed our industry decades ago by fostering the philosophy of problem solving partnerships between law enforcement and the communities we serve. Social media has the innate ability to build upon, and improve, that philosophy by including the community in the problem solving process when the crime occurs, not just hours or days later.⁷⁴

Social media has provided a means for law enforcement agencies to communicate directly with the public. It provides a mechanism for everyone to contribute to making the communities they live in safe. For mass transit agencies, implementing social media platforms would empower the public who ride the transportation systems daily with a sense of ownership and together alongside mass transit agencies they could make the subways and buses safer by reporting suspicious and criminal activities.

7. Conclusion

Criminals have made it easy for law enforcement to take advantage of using social media networks to solve crime. From bragging online about their actions to posting

⁷² IACP , “IACP Center for Social Media 2012 Survey Results,” *IACP Center for Social Media*, August 2012, [http:// www. iacpsocialmedia.org/Resources/Publications/2012SurveyResults.aspx](http://www.iacpsocialmedia.org/Resources/Publications/2012SurveyResults.aspx).

⁷³ Indrajit Basu, “Social Media Elevates Community Policing,” *Digital Communities*, August 6, 2012, <http://www.digitalcommunities.com/articles/Social-Media-Elevates-Community-Policing>.

⁷⁴ Chris Hsiung and Shino Tanaka , comment on “Law Enforcement’s Use of Social Media and the Perception of Rising Crime,” *IACP Center for Social Media the Social Media Beat*, comment posted July 19, 2013, <http://www.blog.iacpsocialmedia.org/Home/tabid/142/authorid/78/Default.aspx>

incriminating photos law enforcement have been able to retrieve this information seamlessly since information posted on these sights are considered “public.” Even though the criminals may have the “privacy” settings activated on their accounts oftentimes their friends or associates do not have these settings in place. Social media monitoring by law enforcement have afforded them the ability to embrace these opportunities and successfully locate criminals, make arrests and close cases.

THIS PAGE INTENTIONALLY LEFT BLANK

IV. DATA ANALYSIS—U.S. MASS TRANSIT AGENCIES CURRENT USE OF SOCIAL MEDIA NETWORKS AND MOBILE PHONE APPLICATIONS FOR REPORTING SUSPICIOUS AND CRIMINAL ACTIVITY

A. BACKGROUND

The threat of terrorism remains in the forefront daily and public transportation systems remains a preferred target for terrorist attacks. The Madrid Train bombings on March 11, 2004, the July 7, 2005, London Tube Bombings the September 11, 2001, United States attack and most recently the Minsk Metro bombing in April 2011, caused mass transit agencies across the world to reevaluate their security measures and raise public awareness of the threat of terrorism. Policing in the transit environment is challenging. Transit police officers are not assigned to every station due to manpower constraints and oftentimes the citizens that ride the system are the “eyes and ears” for observing suspicious behaviors and activities. Ensuring the public’s awareness and reporting of suspicious and criminal activity is vital.

With the rapid introduction of social media by many police agencies across the United States such as Facebook, Twitter and YouTube it is evident that mass transit agencies need to utilize these technologies in order to communicate with the customers they serve. By no means will social media replace traditional methods of communication such as 911; it merely serves as an additional tool for police to engage with customers on all levels.

B. MASSACHUSETTS BAY TRANSIT AUTHORITY (MBTA)

The Massachusetts Bay Transit Authority (MBTA), which oversees the train, bus, subway and boat routes in the Boston area released an Android smartphone application which premiered on Apple’s mobile devices in May 2012. The MBTA was the first transit system in the United States to launch a smartphone app. The new “*See, Say*” application is part of the nationwide “*See Something, Say Something*” campaign which is focused on combatting and preventing terroris. The app allows riders of mass transit to send pictures and text messages and locations of suspicious activity to Transit Police, and

the key here is anonymously. This application is the first of its kind to be used in a mass transit environment where often times communication with Transit Police is compromised due to weekend cellular signals throughout the transportation systems. The application allows for reports from areas with no cellular service to be stored and transmitted when a signal becomes available.⁷⁵

Within six months of its implementation, MBTA officials reported that approximately 2,500 users had downloaded the app. MBTA Transit Police Chief Paul MacMillan stated:

The effectiveness of police is guided by the information we receive from our customers. We believe that safety and security on the MBTA is a shared responsibility, and we ask our customers to actively participate to the extent possible.⁷⁶

The features of the app has the customer's safety in mind. The app allows customers to send a photo, text or call a dispatcher directly to report suspicious or criminal activity. Since some transit agencies are not directly linked to 911 for transit related emergencies, during an emergency situation customers may not remember the transit agency's hotline number. The app, designed with this in mind, once it is opened by the user, it automatically defaults and the flash on their phone is disabled so that attention will not be drawn to the reporting person.

The smartphone app promotes two-way communication between the transit police and its customers. The app is not only used for customer reporting of suspicious and criminal activities but the MBTA also uses it to notify customers of transit related security concerns such as wanted and missing persons.

The ability to be able to push out information and receive a quick response from customers who have been alerted and have a visual on a missing person increases the effectiveness of crime prevention on mass transit systems.

⁷⁵ Matt Rocheleau, "MBTA launches Android version of free mobile See Say app for reporting suspicious activity," *Boston.com*, July 17, 2012, http://www.boston.com/yourtown/news/allston_brighton/2012/07/mbta_launches__android-version.html.

⁷⁶ Claire Meyer, "Smartphone Apps Streamline Mass Notification," *Security Magazine*, September 4, 2012, 2, <http://www.securitymagazine.com/articles/83457-smartphone-apps-streamline-mass-notification>.

One example that substantiates the success of the app is a few weeks after the application was launched a 10 year old girl went missing and was found within 37 minutes due to the swift capability of the public to transmit information regarding her location directly to the police.⁷⁷

The MBTA police did report that the app is not always used by customers to report suspicious and criminal activities. Some customers use it to report train or bus delays. Reports of this nature are forwarded by the dispatcher to the problem related entities. These minor reports are not seen as negative but beneficial to the department. Chief MacMillan stated the following:

We've received more than 200 messages in two months. Some of those are small, like groups of rambunctious teens or notices that lights are out at a train stop, he adds, but fixing those small things helps lend an air of security for passengers.⁷⁸

C. GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY

The Greater Cleveland Regional Transit Authority (GCRTA) released its iWatch app in February 2013. *IWatch RTA* is a free Smartphone application that allows customers to report incidents via, Smartphone, text message or voicemail. The system translates the voice message into a text message that is sent directly to the GCRTA transit police. The app was provided to customers who ride the GCRTA to provide a means for them to report suspicious and criminal activities. GCRTA Transit police Lieutenant Mike Gettings explained:

Often, a rider might see something on a train but if they picked up their phone, they might not feel comfortable talking to the police dispatcher. The app allows them to simply text the information so they cannot only be anonymous to police officers.⁷⁹

⁷⁷ Claire Meyer, "Smartphone Apps Streamline Mass Notification," *Security Magazine*, September 4, 2012, 3, <http://www.securitymagazine.com/articles/83457-smartphone-apps-streamline-mass-notification>, 3.

⁷⁸ *Ibid.*, 4.

⁷⁹ Nicole Schlosser, "Apps Helping to Enhance Riders' Experience," *Metro Magazine*, June 2013, www.metro-magazine.com/article/story/2013/06/helping-to-enhance-riders-experience.

The app is free and is available on phone and Droid networks. Riders of the system will be able to text tips, email, and send photos and videos directly to transit police. Chief John Joyce of the RTA Transit police stated,

Adding an anonymous reporting system encourages people to send tips. Adding iWatch RTA expands our reach, in addition to the presence of officers on the buses, trains, at stations and on the streets; it is an extremely important tool and a great benefit to our customers.⁸⁰

GCRTA while encouraging customers to utilize the app, like other transit police agencies discourage reporting incidents serious in nature and direct them to call 9–1–1 or Transit Police Dispatch 24/7. The app had minimal implementation costs and the average start up cost was approximately \$5,000 and was funded by the Department of Homeland Security (DHS) grant process.⁸¹

In addition to receiving crime tips, riders are also reporting “quality-of-life incidents such as other riders eating, drinking, smoking or playing music to loud. Before the app was implemented customers would have to physically report these incidents to the operator of the bus or train. Oftentimes this was done right in front of the offenders. The app affords a discrete way for customers to report these minor infractions. Gettings said, “if we take care of the smoking, eating and drinking, then people are less likely to commit more serious crimes.”⁸²

D. METROPOLITAN ATLANTA RAPID TRANSIT AUTHORITY (MARTA)

The Metropolitan Atlanta Rapid Transit Authority(MARTA) launched its “*See & Say*” app in April 2013. The application is free and enables customers to send texts and photos to the transit system’s police department regarding suspicious activity.⁸³ MARTA

⁸⁰ James Susan, “NFTA launches mobile app for safety reporting,” *The Transit Wire.com*. June 7, 2013, www.thetransitwire.com/2013/06/07/nfta-launches-mobile-app-for-safety-reporting.

⁸¹ RTA. “iWatchRA- Customers Can Send Police Text and Photos,” RTA *Greater Cleveland Regional Transit Authority*, February 5, 2013, <http://www.riderta.com/news/iwatch-customers-can-send-police-text-and-photos>.

⁸² Nicole Schlosser, “Apps Helping to Enhance Riders’ Experience,” *Metro Magazine*, June 2013, <http://www.metro-magazine.com/article/story/2013/06/helping-to-enhance-riders-experience>.

⁸³ Pepalis, Bob Pepalis, “MARTA Introduces See & Say App,” *Alpharetta-Milton Patch*, March 31, 2013, <http://www.alpharetta.patch.com/groups/editors-picks/p/marta-introduces-see-say-app-3b386b62>.

officials report the app is user friendly and can be downloaded from the iTunes Store or the Android Market.

The app is designed for environment that have limited or weakened cellular signals, such as the subway system's underground tunnels. Customer may still report suspicious or criminal activities even if they lose cellular service. The texts or photos will be sent directly to the police department as soon as the service is restored.⁸⁴ The app allows for customers to report suspicious activities discreetly and customers may also voluntarily receive service updates and BOLO alerts.

MARTA informed customers that the app provides an additional layer of security and is not meant to replace 911 emergency alerts. In a recent statement, MARTA's General Manager stated the following:

This new app is the latest example of how we will use technology intelligently to transform the way we do business. While we expect that the See & Say app will also help customers feel safer by giving them a convenient tool for communicating directly with our police department.⁸⁵

E. SANTA CLARA VALLEY TRANSPORTATION AUTHORITY

In an effort to enhance safety of customers who ride the Santa Clara Valley Transportation Authority (VTA), the transit system introduced its VTAAlerts App in May 2013. The app allows customers to report criminal or suspicious activities and the disabling flash capability allows for users to safely take and send photos to the police directly.

Riders who use the VTA welcomed the smartphone app as the ridership is technologically savvy. Mike Hursh, chief operating officer of VTA offered the following statement:

⁸⁴ Ibid., 1.

⁸⁵ Adrienne Murchison, "MARTA Introduces Public Safety App for Suspicious Activity" *Sandy Springs Patch*, March 30, 2013, <http://www.sandysprings.patch.com/groups/editor-picks/p/marta-introduces-public-safety-app-for-suspicious-activity>.

We have a smart ridership, smart clientele and they practically demand current technology situations. Certainly for us this seemed to be cutting edge.⁸⁶

The agency did a soft roll-out of the app initially. Unlike many of their transit partners, the VTA uses multiple security forces such as the Santa Clara County Sheriff's Department as well as a contracted private security to police the transportation system. Due to the multiplicity of security to ensure calls were diverted to the right jurisdiction, the agency enhanced their app with a high level alert signaler to prevent calls/tips from going unnoticed.

Since its inception, approximately 600 people have downloaded the apps and 200 reports have been submitted. It is undetermined as to what extent crime would be impacted due to the app but in addition to soliciting crime tips from citizens the app has proven to be beneficial to police in findings missing persons and Amber Alerts.

Currently, like the aforementioned mass transit agencies, VTA has not measured the impact of the *See, Say* app on crime.

F. NIAGARA FRONTIER TRANSPORTATION AUTHORITY

In June 2013, the Niagara Frontier Transportation Authority (NFTA) Transit Police Department implemented its "See Say" smartphone app for customers utilizing the Metro rail, bus, airline or NFTA boat harbor making the Department the first to use an app for aviation and maritime situations.⁸⁷

Chief George Gast of the NFTA Transit Police Department said the customers will be afforded the opportunity to report suspicious persons, packages and illegal activity immediately.⁸⁸

⁸⁶ Joe Petrie, "VTA App Allows Passengers to Discreetly Report Crime," *Mass Transit Magazine*, May 23, 2013, <http://www.masstransitmag.com/article/10947687/vta-app-allows-passengers-to-discreetly-report-crime>.

⁸⁷ Susan, "NFTA launches mobile app for safety reporting," *The Transit Wire.com*, June 7, 2013, <http://www.thetransitwire.com/2013/06/07/nfta-launches-mobile-app-for-safety-reporting>.

⁸⁸ Kaitlyn Lioni, "NFTA launches smartphone app to enhance transit system safety," *Buffalo YNN*, June 6, 2013, <http://www.buffalo.ynn.com/content/news/667997/nfta-launches-smartphone-app-to-enhance-transit-system-safety>.

In addition to being able to send text messages, pictures and report locations of incidents directly to police dispatchers, messages will go directly to computers in each of the patrol vehicles.

NFTA's police Chief's focus has been on community policing for the past few years. As a result, crimes in the system have dropped over 20 percent.

We think this is going to significantly add to that partnership that we're constantly trying to develop at the NFTA between the department, between the authority and the public and customers that utilize our system," stated . Chief Gast.

The NFTA police department is the first agency to use the *See & Say* app for aviation and marine operations.

G. LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

The Los Angeles County Metropolitan Transportation Authority (Metro) introduced its smartphone in June 2013. The LA Metro Transit Watch smartphone app is part of the new TransitWatchLA.org website that allows the Los Angeles County Sheriff Department who patrols the metro, to engage directly with the customers they serve.⁸⁹

In an effort to enhance safety and assist law enforcement Metro launched its free app on the on the iPhone and Android networks Customers may elect to speak directly with the Sheriff's Dispatch Center or send attach a photo to an email so that officers can respond.

Due to W-Fi not being available inside subway tunnels, the application will be modified and revised as the transportation agency secures a cellular carrier over the next year. Service is available light rail and buses.

Metro encourages riders to report all incidents to include criminal, suspicious activities and safety issues. The agency states that the app is not intended for use in emergencies and riders are directed to call 911.

⁸⁹ Steve Hyman, "Metro Introduces smart phone security app to report transit related crimes," *The Source*, June 26, 2013, [http:// www.the.source.metro.net/2013/06/26/metro-introduces-smart-phone-security-app-to-report-transit-related-crimes](http://www.the.source.metro.net/2013/06/26/metro-introduces-smart-phone-security-app-to-report-transit-related-crimes).

H. CONCLUSION

Mass transit are increasingly adopting social media technologies and smartphone applications. Although agencies have implemented smartphone applications for reporting crimes there is little literature available that substantiates whether or not the applications are successful or not. Gaps in the research exist and data that supports case closures, or increased crime reporting is not accessible or non-existent. Clearly adopting these technologies along with other crime prevention efforts can assist agencies in soliciting crime tips and assistance from the community. Unfortunately, the adoption alone of these tools does not measure the programs efficiency and usefulness. Maintaining a database on information obtained from mobile phone applications and social media platforms such as on calls for service and successful case closures and arrests may enable U.S. law enforcement agencies to develop a law enforcement model for the use of social media.

V. DATA ANALYSIS—U.K. MASS TRANSIT AGENCIES CURRENT USE OF SOCIAL MEDIA NETWORKS AND MOBILE PHONE APPLICATIONS FOR REPORTING SUSPICIOUS AND CRIMINAL ACTIVITY

A. BACKGROUND

The use of social media and smartphone applications in the United Kingdom by mass transit law enforcement agencies for reporting suspicious and criminal activities is slowly evolving similarly to implementation of these technologies by United States mass transit law enforcement. Social media platforms or Information Communications Technology (ICT) as it is referred to in the United Kingdom, is an emerging technology and is increasingly becoming relevant. Many police forces in other countries have yet to see the value in implementing social media networks and smartphone applications for reducing crime.

The United Kingdom just like the United States faces similar challenges in public scrutiny regarding use of social media as well as bridging the communication gap that exists between the police and the public. Implementing social media in both the UK and the U.S. have implications that are often scrutinized by the public. Social media networks are useful for law enforcement as investigatory tools for solving and prevention of crimes but when used by groups to organize riots, police actions to mitigate these actions unfortunately fall prey to scrutiny regarding “privacy.”

The use of social media and smartphone applications by mass transit law enforcement agencies is increasing in the United the states however common barriers exist to law enforcements implementation of these networks in the United Kingdom. Both countries share an overwhelming need for cultural and organizational changes regarding implementation of social media networks such as overall acceptance of these new technologies as well as the examination of the relationship the police forces have with the communities they serve. Although social media is evolving in law enforcement departments in both countries, implementation of these technologies within mass transit law enforcement agencies is not as vast.

Although there are governmental and cultural differences between European countries and the United States, best practices exist between their operational usage of social media and smartphone applications for reporting suspicious and criminal activities that will benefit mass transit policing efforts in the United States.

B. BRITISH TRANSPORT POLICE CURRENT USE OF SOCIAL MEDIA NETWORKS AND MOBILE PHONE APPLICATIONS FOR REPORTING SUSPICIOUS AND CRIMINAL ACTIVITY

The British Transport Police (BTP) launched their Twitter account in 2010. The British Transport Police were the first transit police department in the UK to launch social media. Twitter is being used by the BTP for criminal investigations, soliciting crime tips from the public and various outreach measures such as safety advice, upcoming events and recruitment. To date, the BTP has over 21,750 followers. Twitter proved to be successful during crowd sourcing for the 2012 Olympic and Paralympics' games. Currently, the department is utilizing new technologies such as Google Glass to investigate crimes and predict future crimes.

Google Glass is wearable technology that gives wearers of the glasses an Internet connection and a camera that can record video and audio of everything the wearer sees.

As part of the “*See Something, Say Something*” campaign, BTP – West Midlands smartphone application has enabled passengers to text information directly to the police. The program was launched in March 2013, and allows commuters witnessing anti-social behavior on trains to text tips to the police. The messaging system is cloud-based and allows for the BTP to monitor the messages received and dispatch officers when needed. Deputy Chief Constable Paul Crowther stated,

By encouraging passengers to report incidents via text we hope we'll get more of a complete picture of the sort of all too common problems that affect people's journeys.⁹⁰

⁹⁰ The Newswire, “PageOne aid British Transport Police tackle travel crime through text service,” *PageOne*, June 3, 2013, [http:// www.pageone.co.uk/british-transport-police-crime-text-service-7005.htm](http://www.pageone.co.uk/british-transport-police-crime-text-service-7005.htm).

The BTP joined YouTube in April 2011. The department currently has 502 subscribers and has 182,202 views. The site contains public outreach and informational campaigns, crime prevention videos as well as British Transport Police careers and role profiles of officers.⁹¹

According to the BTPs Twitter policy, Twitter has allowed the department to engage in a two-way online discussion with the public, provide feedback, seek help and suggest ideas. As of summer 2013, the BTP had more than 33,000 Twitter followers and gains on the average 200–400 more per week.⁹²

The British Transport Police in March 2013, implemented a text a tip number to report crime on its railways. Customers are directed to to text 61016 to report activities discreetly in an effort to reduce anti-social behaviours and help the police to identify and capture suspects. DCC Crowther of BTP stated the following:

Low-level anti-social behaviour, which we know occurs on trains often later at night and when people people have been drinking, it is undoubtedly under-reported. We hope that the ease of being able to send a quick text message will encourage more passengers to report incidents.⁹³

Although the text messages are monitored 24/7 and the police will be able to respond as required, customers are still encouraged to report emergencies by calling the BTP directly.

C. GREATER MANCHESTER POLICE (GMP)

The Greater Manchester Police Department launched its Twitter account in 2010 and has successfully enabled over 180 officers to tweet information to citizens in the neighborhoods they patrol. Additionally, the Department utilizes other social media networks such as Audioboo, Pinterest, and Storify to communicate and transmit video and pictures with citizens for reporting crime.

⁹¹ “British Tansport Police,” YouTube video, April 28, 2011, <http://www.youtube.com/user/btpuk>.

⁹² British Transport Police, “British Transport Police Neighbourhood Policing Team Twitter account guidance,” *What DoTheyKnow.com*, September 13, 2013, http://www.whatdotheyknow.com/request/175922/response/430533/attach/4/BTP_Twitter_guidance1.pdf

⁹³ Meridan ITV News, “Crime text initiative welcome,” *Meridian British Transport Police News* March 6, 2013, <http://www.itv.com/news/meridian/topic/british-transport-police>.

During the riots, the use of social media became a controversial public debate as the offenders resorted to various networks and mobile communication to organize and wreak havoc. Just as the rioters used Twitter to organize and attack the UK police forces likewise used it to communicate with the public.⁹⁴ Although Twitter allows people to text tweets freely and for those tweets to be seen publicly, this openness was not afforded to the London Metropolitan Police (MET) and the Greater Manchester Police. Both police forces faced challenges in balancing civility and relaying pertinent information for public safety. The unrest during the riots demonstrated the importance of social media monitoring and providing real-time communication for public safety.

A YouTube page was created to explain what was dubbed as the “Shop a Looter” program which explained that images of the wanted rioters and looters would be posted on the department’s Flickr page and on billboards and advertising vans that were posted throughout the city. Additionally, Twitter was utilized as well to direct citizens to go to the Flickr site to identify those involved in the riot.⁹⁵ The use of these social media platforms resulted in the GMP receiving Big Chip’s Best Use of Social Media Award in 2012.

In August 2011 the GMP were recipients of yet another Big Chip Award. In 2011, the Greater Manchester Police with GMP24 – Greater Manchester Police Twitter Day Twitter was used to announce the details of all emergency and non-emergency calls during a 24-hour period in real time. This was the first time a police force had put forth an effort to demonstrate to the public the range of issues the police department dealt with in a given day. This effort yielded the GMP with the Best Use of Social Media Award in 2011 as well.⁹⁶

⁹⁴ Sebastian Deneff, Petra Saskia Bayerl, and Nico Kaptein, “Social Media and the Police - Tweeting Practices of British Police Forces during the August 2011 Riots,” *CHI2013*, May 2013, http://www.denef.de/wp-content/uploads/2013/04/ukriots_police_twitter_CHI2013_denef_bayerl_kaptein.pdf.

⁹⁵ Chris Richardson, “Manchester Police Use Social Media To Track Down Rioters,” *WebProNews/Social Media*, August 15, 2011, <http://www.webpronews.com/manchester-police-use-social-media-to-track-down-rioters-2011-08>.

⁹⁶ Big Chip 2013, “Best Use of Social Media,” 2013. *Big Chip 2013*, <http://www.bigchipawards.com/page.asp?id=3750>.

In January 2013, the Department launched its own GMP smartphone application that provides real-time information to the public and has geo-location technology. What was viewed as a novelty by the agency has now become mainstream and is widely accepted throughout the Department.⁹⁷

Facebook and Twitter have provided a useful platform that has enabled the GMP to solve many cases and bring suspects to justice.

GMP DCC Ian Hopkins in a recent interview stated, “We have had some fantastic results where posts on social media have traced wanted people and where people have been able to provide more information and details about what is happening in communities across Greater Manchester.”⁹⁸

Senior officers describe the use of social media police by the GMP as a ‘game changer for policing. Social media was implemented by the GMP to improve engagement with the community, reduce costs and manage internal communication with the organization. The GMP police staff has been trained in the use of social media and 52 out of 45 neighborhoods have Twitter accounts.⁹⁹

D. NORTHUMBRIA POLICE DEPARTMENT

The Northumbria Police Department currently utilizes Facebook, message boards and blogs to communicate with the public. The Facebook page is not used to report non-emergency issues or complaints rather it is utilized for informational purposes and public outreach. The page currently has 11,460 likes.

The Northumbria’s Twitter page currently has 26,715 followers. Tweets are utilized by the department to inform the public about wanted individuals, public outreach information and community information updates.

⁹⁷ Amanda Coleman, “Greater Manchester Police joining with forces across the globe #poltwt,” *ConnectedCOPS.net*, March 20, 2013, <http://www.connectedcops.net/2013/03/20/greater-manchester-police-joining-with-forces-across-the-globe>.

⁹⁸ Greater Manchester Police, “Radio 4 examines GMP’s use of social media,” *Greater Manchester Police*, October 8, 2013, <http://www.gmp.police.uk/content.websitepages/A807F7AA0EDCBA6E80257BFE00042EEA1?OpenDocument>.

⁹⁹ Sarah Michelle Willis, “Greater Manchester Police.: 2 *Communicate PR & Social Media Specialists*, July 13, 2013, <http://www.2communicateblog.wordpress.com/tag/greater-manchester-police>.

YouTube is utilized for campaigns and crime prevention video. The department subscribed to YouTube in December 2007, and currently has 200 subscribers with over 186,870 views.

Recently the Northumbria Police Department has experienced an enormous turnover of officers with approximately 200 officers leaving per year due to retirements or resignations. In an effort to keep officers on the street the department submitted a funding bid in August 2013 to purchase phone smart phones and iPad computer tablets. These digital technologies would allow officers to file reports electronically and remain on the beat. Chief Constable Greg Vant offered the following statement:

In today's society the public would expect officers to be equipped with mobile technology and the introduction of tablets and smart phones, together with redesigned processes, would improve the force's intelligence led policing capability, better inform front line officers and ultimately help make communities safer.¹⁰⁰

E. WEST MIDLANDS POLICE

The West Midlands Police Department is the second largest police force in the country. The department currently utilizes Facebook, Twitter, YouTube and Flickr. The Facebook page currently has 29,999 likes and posts information regarding BOLOs, police recruitment, community outreach information and CCTV video surveillance of wanted suspects. West Midlands Police joined Facebook in September 2008.

The West Midlands Police joined Twitter page contains missing person's and suspects photos, CCTV links for crimes and suspects wanted in connection with crimes, traffic delays and community outreach information. The department joined in 2007 and currently has 84,050 followers.

The Department's YouTube site has 3,781 subscribers and has 4,426,697 views. Uploaded videos include community outreach and suspected criminal and crimes committed photos. The West Midlands Police also maintain a Flickr account which is shared with the public to identify wanted suspect crime tips.

¹⁰⁰ Adrian Pearson, "Northumbria Police need 2m for Smartphones and tablets," *Chronicle Live*, August 10, 2013, <http://www.chroniclelive.co.uk/news/northumbria-police-need-2m-smartphones-5694256>.

In June 2013, the West Midlands Police with Safer Travel Partnership launched its *See Something, Say Something* mobile phone app. The Safer Travel Partnership is comprised of the Centro ransport Authority, West Midlands Police and British Transport collaboratively working together to make the West Midlands public transport environment safer.

Since its inception, over 230 customers have downloaded the app on the Iphone and android platforms. Customers utilizing the app can upload reports of anitsocial or suspicious behaviour directly to the police. Once the information is submitted, each tip is followed up by an officer to obtain additional facts if needed.

The app is the first of its kind in the UK and has proven to be success in the United States. Centro Transport Authority chairman Cllr John McNicholas said, “This app is expanding the valuable role that See Something, Say Something plays in helping us tackle nuisance behaviour and help provide a quiet and relaxing environment for their journey.”¹⁰¹

In addition to the See Something, Say Something app may report nuisance behaviours by texting “bus, metro or rail to 83010. Customers are reminded that in case of an emergency they should always dial 999.

F. CONCLUSION

Social media networks in the UK has evolved and has proven to be useful tool for community engaging and crowdsourcing events as demonstrated during the 2012 Olympics. With the increase of Twitter followers and Facebook likes demonstrated in the aforementioned data analysis social media technologies have become a useful tool for UK law enforcement.

From managing riots to identifying suspect the UK police forces such as the BTP have become leaders in social media usage. Creativity with the use of Twitter and initiatives such as “Twitter Day” earned the GMP a Social Media award in 2011. In an

¹⁰¹ Safer Travel Partnership, “News: See Something, Say Something mobile phone app launched,” *Safer Travel Partnership*, June 3, 2013, http://www.safertravel.info/news_more.asp?news_id=26.

effort to identify looters during the riots the GMP successfully led citizens via Twitter to view photos on Flickr to identify suspects and earned the department Big Chip's Best Use of Social Media award in 2012 as well. These award winning UK police forces serve as role models and leaders in the use of social media technologies.

VI. ANALYSIS

A. FINDINGS AND SUMMARIES

In a world where social media is becoming the primary way that people communicate daily, although law enforcement agencies across the country and the world are adopting social media technologies and smartphone applications, they have yet to take full advantage of what these platforms have to offer. A review of the mass transit agencies utilized in this thesis concludes the following:

- Smartphone applications are increasingly being adopted by mass transit law enforcement agencies for reporting suspicious activities and crime.
- The smartphone applications examined have only been in use for a year or less, therefore measurement of their effectiveness is not available.
- MBTA was the only agency that had documented a few exemplars of the effectiveness of its app. A missing 10 year old girl was found in 37 minutes and two suspects were identified in connection with their attempt to sell firearms at the Airport Station.
- VTA was able to provide some type of measurement of success in terms of customer usage and reporting tips. The agency reported approximately 600 people have downloaded the app and 200 reports have been submitted. The agency reported it was undetermined as to what extent crime would be impacted due to the app but in addition to soliciting crime tips from citizens the app has proven to be beneficial to police in findings missing persons and Amber Alerts.

None of the Mass Transit agencies examined during the case studies produced a measurement of success on their websites nor was it evident during the research of literature. Perhaps since the implementation of social media was new and the majority of the agencies have not had their social media apps or networks in place for over a year. Perhaps since the examined transit agencies currently do not have a social media policy in place nor evidence of a strategy plan of any sort exists from a review of the literature, measurement of success in terms of number of case closed, suspects apprehended or identified, number of reports submitted and actual user downloads was an afterthought. Further research is imperative on the effectiveness and success of social media networks and smartphone applications and could serve as best practices for law enforcement agencies who have or plan on implementing these technologies.

The “*Smartphone Apps Streamline Mass Notification*” article written by Clair Meyer cited the following:

It’s impossible to prove a negative, however, so it can be difficult to show how many crimes have actually been prevented due to the heightened awareness and added reporting that these mass notification apps provide.¹⁰²

This statement substantiates the need to measure the effectiveness of social media platforms. Suggestions agencies may follow are:

- Creating a database to track customer reporting of suspicious activities and crime
- Reviewing crime stats to determine decreases in crime
- Monitoring likes or retweets on social media platforms to gauge customer satisfaction
- Develop customer service surveys to measure success/failures and use as a template for modifying existing program if needed

Most of the social media sites implemented by law enforcement agencies are not monitored 24/7 and almost all of the agencies referenced in the case studies stress dialing 911 in case of emergencies will always prevail. Additionally, none of the Twitter pages allow the public to report crimes or complaints.

Social media is social. Perhaps law enforcement agencies put this disclaimer on their sites because they are afraid of what people might report or if too many crimes are reported on mass transit, customers will be afraid to ride. Instead of viewing this as negative feedback, agencies should take advantage of crimes being reported and turn them into public awareness and outreach opportunities. For example, if robberies of cellphones are on the rise and someone tweets or posts tips or information about the suspect, agencies should not only post a picture of the subject if available along with crime prevention tips regarding safeguarding your cellphones and electronic devices. Negative conversations of mass transit law enforcement agencies are occurring on a daily basis. Keeping this in mind should motivate mass transit law enforcement agencies to become a part of those conversations and address the issues firsthand. Listening to the

¹⁰² Claire Meyer, “Smartphone Apps Streamline Mass Notification,” *Security Magazine*, September 4, 2012, 3, <http://www.securitymagazine.com/articles/83457-smartphone-apps-streamline-mass-notification>.

public and letting them vet their concerns and tips by any means necessary is a win-win for both mass transit and law enforcement agencies as well as the community.

By limiting customer reporter through social media sites , mass transit agencies are subjecting themselves to missed opportunities. As revealed in the case studies, mass transit customers may be reluctant to report an incident due to the close proximity of the suspect . Fear of being seen holding a phone and calling 911 jeopardizes the reporting person's safety. Mass transit agencies should not minimize reporting mechanisms by placing stipulations on what may or may not be reported. Social media essentially becomes just "media" when disclaimers and limitations are placed on how people report incidents.

Law enforcement views calling 911 as traditional but on the contrary, today's technological society views social media networks as their 911 reporting system. A 2009 Red Cross study revealed,that many people turn to social media before using 911. If someone needed help many people reported they would do the following:¹⁰³

- 44% would ask other people in their social network to contact authorities.
- 35% would post a direct request for help on a response agency's Facebook page.
- 28% would send a direct message to responders.
- 50% believe agencies are already responding to social calls for assistance.
- 74% expected help to come less than an hour after their tweet or Facebook post.

Evaluation of social media technologies are a first in measurements of success in terms of effectiveness. The number of Facebook "Likes" and "Followers" on Twitter and Instagram are examples of measurements but the key to determining whether an initiative or technology is truly effective is the amount of people who are actually utilizing the technology.

¹⁰³ Christa M. Miller and Tabatha Wethal, "Social Crisis Response," *Officer.com*, January 25, 2011, <http://www.officer.com/article/10222589/social-crisis-response>.

Caveats exist that may be preventing the public from engaging and utilizing social media technologies and smartphone applications. If that number is low, then law enforcement must do the following to enhance customer usage:

- Poll your customers in order to determine whether the smartphone application you have implemented are effective or not. Customer feedback is important. Caveats may exist that are preventing the public from downloading smartphone applications such as ease of use and inconvenience.
- Customers should be able to voice their opinions and suggestions upon implementation of social media networks and smartphone apps. Improvements can be made especially the social platforms are not user friendly or encouraging a two-way dialogue. Comments are valuable to the growth of an organization regardless if they are positive or negative. Customer dialog are key to the success of social media technologies so don't miss out on the opportunity to connect and engage.
- Engage the community through public outreach campaigns and attend community meetings to solicit feedback on apps

Implementation of social media networks and smartphone applications are just one of few pieces to the puzzle. Law enforcement agencies need to be sure that they are equipping the public with as many tools as possible to help reduce crime and report suspicious activities in an effort to prevent crime. Additional measurements to gauge effectiveness and the public's use of social media technologies are:

- Number of Twitter followers
- Number of Facebook fans and likes
- YouTube shares
- Page Views
- Comments/Re-tweets
- Downloading of outreach materials
- Number of tips provided
- Number of crimes solved
- Increase in number of arrests based upon information provided from customers

As examined in the data analysis, mass transit law enforcement agencies are slowly implementing these technologies. Like many agencies that have began utilizing these technologies, social media policies or a strategic implementation plan are non-

existent. With the increased use of social media platforms by law enforcement to monitor criminal activities, illicit information and gather intelligence having a social media policy to provide guidance and protect the organization from legalise is a priority.

The United States can benefit from the United Kingdom's use of social media and smartphone applications for reporting crime on mass transit. The aforementioned UK agencies developed social media policies that established the guidelines for the use of these technologies, which is imperative to achieve success. Mandating that social media policies be developed before implementation by law enforcement agencies will reduce liabilities associated with improper usage by law enforcement. In addition to training, privacy policies in both the United States and the United Kingdom should be updated or re-written and should contain details on how to protect citizen's privacy, civil rights and civil liberties.

UK police forces lead the world in future emerging technologies such as the integration of CCTV and IP video surveillance. The London bombings of July 7 2005 and July 21, 2005, prompted many cities across the world to consider the use of video surveillance solutions. The cost effectiveness of video surveillance offers a variety of benefits to include easier and less expensive installation, wireless cameras, higher image quality vs. older analog video surveillance systems and the ability to apply various video analytics such detection of abandoned bags and suspicious behaviors; all of which are commonalities in mass transit systems. London has installed over 6,000 cameras in its subway system, the Underground.

The public has embraced these video surveillance technologies especially after incidents such as the London bombings in 2005, which proved the city's surveillance cameras led to the capture of suspects within a week and most recently the Boston Marathon bombings. The capture of suspects in both of these incidents was successful due to the combination of citizen cooperation and the emerging technology of video surveillance systems.

The primary advantage in considering video surveillance technology is that most agencies already have the capabilities of installing and maintaining the systems since the cameras operate off of IP networks and addresses. The purchase of new hardware and monitors is not a requirement. The alerting capabilities of this technology also reduce response requirements of police personnel and paying overtime as a result. The video management systems have the capability of alerting specific personnel and footage can be viewed from the web at anytime.

Looking beyond the boundaries and focusing on the big picture will enable mass transit agencies to explore innovative, emerging trends such as the use of mobile phone apps for Internet Protocol (IP) video surveillance. This type of technology has never been implemented in a mass transit environment, which makes it innovative in and of itself.

Video surveillance mobile apps would allow the mass transit law enforcement officers to view video surveillance cameras installed throughout the subway system, rail yards and bus divisions. Footage could be viewed on smart phones, tablets such as I-Pads and via Wi-Fi, 4G and 3G networks. Essentially smart phones and tablets would become mobile video surveillance and response tools. Camera video could be viewed from any location thus enhancing situational awareness and preparing emergency and operational personnel before entering a situation. The integration of mobile video surveillance mobile apps to an organizations' existing camera system combined with the Video Management System Software that these technologies operate are cost effective. Installation requires fewer cameras to monitor locations.

Verint systems partnered with Metro Transit Police Department in Minneapolis to monitor its' camera systems. The software operates off of an IP based platform and utilizes the Nextiva Video Management Software.¹⁰⁴ The software offers networked video viewing and investigation management to aid the Transit Police in detection, response and investigation of threats and incidents. The software enables mass transit

¹⁰⁴ Verint, "Metro Transit Extends Investment in Video and Situation Intelligence Solutions from Verint to Help Monitor and Secure Growing Transportation Network," *Verint*, May 1, 2013, <http://www.verint.com/news/events/press-releases/2013-press-releases/05-01-2013>.

police to view crimes in progress or suspicious activities “real time” on their cellular phones, tablets, or computers.

A popular technological tool currently being utilized by mass transit law enforcement in the United Kingdom is the Facewatch ID app. This app is free and can be downloaded for phone, Blackberry and Android smart phones and allows for customers to download images of suspects that the police have uploaded for identification. The app has proven successful for the Met Police and a reported 200 positive identifications were made to law enforcement in the first six months after the app was launched in June 2012.¹⁰⁵

Another innovative way to engage the community that is currently utilized by United Kingdom law enforcement are “live stream” discussions or virtual community meetings. Social media platforms such as Facebook, Twitter, Flickr and YouTube are utilized to reach the public daily. Smartphones and tablets are used to film officers on their beats during their tours and opportunities to discuss their roles, issues in the neighborhoods and field questions were all done in a virtual manner. These meetings enhance community policing efforts and allows for members of the public to log in and speak directly with officers assigned to their areas.¹⁰⁶

B. CONCLUSION

Social media is here to stay. It has become a part of our daily lives and law enforcement agencies across the world are incorporating the use of these technologies into their daily policing. As demonstrated by law enforcement agencies in the UK, the future of social media networks has expanded beyond desktop computer portals and into the hands of law enforcement agencies. Streamlining footage from CCTV or IP video surveillance allows officers to prepare and equip themselves beforehand enabling them

¹⁰⁵ Jasmin McDermott, “Technology Increases Public’s Help With Investigations,” *Police Oracle*, February 6, 2013, http://www.policeoracle.com/news/Technology-Increases-Public’s-Help-With-Investigations_60846.html.

¹⁰⁶ West Midlands Police, “West Midlands Police to host International Conference showcasing innovative use of social media” *West Midlands Police*, July 2, 2013, <http://www.west-midlands.police.uk/np/conventry/news/newsitem.asp?id=13669>.

to mitigate and resolve matters efficiently and effectively. The United Kingdom's use of these emerging technologies can serve as a law enforcement model for agencies across the world.

VII. CONCLUSION AND RECOMMENDATIONS

Social media networks and smartphone applications have changed the way we communicate. It provides two-way communication that enables an immediate exchange of conversation to talk directly to you or indirectly about you through various online social media platforms such as Facebook and Twitter. In an effort to address customer concerns and needs that are being voiced utilizing these technologies, it is imperative that mass transit law enforcement agencies develop a social media strategy to achieve this. To ensure that everyone is onboard with the implementation of social media networks and mobile phone applications for reporting suspicious and criminal activities the following should serve as a template for success:

- Before implementing social media or mobile phone applications for crime reporting, mass transit law enforcement agencies should consider introducing to citizens a survey on social media and mobile phone applications for reporting crime on subways and buses to gauge how customers feel about it, what they think is suspicious or criminal activities and to illicit their opinions on the effectiveness of implementing these technologies. What the public views as criminal or suspicious may differ from law enforcement's perspective.
- The Accenture Citizen Pulse Survey on Policing revealed citizens want to help fight crime but did not feel that they were well informed about what the police were doing. 88% of citizens believed they were important participants in crime fighting and believed that reporting crime was a key role for citizens in police services.¹⁰⁷
- Community engagement is key to the success of introducing new technologies—Public outreach is essential. A community-wide approach is imperative. Collaborating with local community leaders, local political figures, schools and businesses will result in full local “buy in” from all stakeholders. Public feedback from all key players makes a difference. Local leaders support helps to bridge the gap of trust between the community and law enforcement. The IACP cites that the most effective law enforcement agencies recognize and promote partnerships with the citizens to prevent crime.¹⁰⁸

¹⁰⁷ Accenture, “Are Policing Forces Maximizing Technology To Fight Crime and Engage Citizens Survey,” *Market Connections*, 2012.

¹⁰⁸ International Association of Chiefs of Police, “Social Media and Crime Prevention Fact Sheet,” *IACP Social Media*, December 2012, [http://www.iacpsocialmedia.org/Portals/1/documents/FactSheets/Crime Prevention Fact Sheet.pdf](http://www.iacpsocialmedia.org/Portals/1/documents/FactSheets/Crime%20Prevention%20Fact%20Sheet.pdf).

- Mass transit law enforcement should coordinate with their local surrounding police jurisdictions that have already implemented social media to evaluate for best practices/ lessons learned. Programs such as the IACP Technology Center have proven to be an invaluable resource for law enforcement agencies planning to implement and manage technologies.¹⁰⁹ Additionally, the IACP article “*Increasing Your Social Media Presence Fact Sheet*” suggests that law enforcement agencies build partnerships when they “follow” other agencies on networks such as Twitter. By doing so, agencies can share messages and maximize outreach and also obtains ideas and trends from partnering agencies.¹¹⁰
- Public forums/community meetings allow for law enforcement agencies to present statistics on successes and effectiveness of social media networks and provide an open forum for questions, concerns and legalities to be addressed so that the community feels comfortable and confident in using social media technologies. “*A Resource Guide to Improve Your Community’s Awareness and Reporting of Suspicious Activity*” demonstrates how law enforcement can build organizational buy-in to support suspicious activity reporting within agencies and communities by listening and addressing privacy, civil rights and civil liberties concerns.¹¹¹
- Outreach methods such as partnering with local news media, radio stations and advertisements placed on buses and in rail stations should be utilized in promoting the mass transit agencies implementation of social media. Public service announcements and materials should be made available in different languages as well. The IACP article “*Increasing Your Social Media Presence Fact Sheet*” recommends printing posters, brochures or press releases along with reaching out to partners in your community may aid in the agency’s social media promotional efforts.¹¹²

Social media networks and mobile phone applications are effective tools that establish communications and engagement between law enforcement and the community. Although many law enforcement agencies have implemented social media networks and

¹⁰⁹ International Association of Chiefs of Police, “International Association of Chiefs of Police global leadership in policing,” *IACP Technology Center*, 2013, <http://www.theiacp.org/technology/tabid/72/default.aspx>.

¹¹⁰ International Association of Chiefs of Police. “Increasing Your Social Media Presence Fact Sheet,” *IACP Center for Social Media*, December 2011, <http://www.iacpsocialmedia.org/Portals/1/documents/FactSheets/IncreasingYourPresenceFactSheet.pdf>.

¹¹¹ Federal Emergency Management Agency, “A Resource Guide to Improve Your Community’s Awareness and Reporting of Suspicious Activity,” *FEMA*, February 2012, <http://www.fema.gov/media-library/assets/documents/24352>.

¹¹² International Association of Chiefs of Police, “Increasing Your Social Media Presence Fact Sheet,” *IACP Center for Social Media*, December 2011, <http://www.iacpsocialmedia.org/Portals/1/documents/FactSheets/IncreasingYourPresenceFactSheet.pdf>.

mobile phone applications for crime prevention, very few have developed social media policies that outline and define the use of information obtained or exchanged from these technologies. In order for these networks to be effective, guidelines regarding what both the public and law enforcement can post on their pages should be established. The law enforcement agency should define and outline what qualifies as acceptable comments, postings, videos and pictures on its site as well as sanctions for misbehaving or misrepresentation of the department is imperative. This prevents issues regarding censorship.

The importance of a social media policy is imperative due to the legalities surrounding user privacy and protection of personal information. The implementation of social media networks should be viewed the same as any other law enforcement policy or general order. Citizens need to be aware that there will be sanctions imposed if false crime tips are posted or sent. Although law enforcement agencies encourage citizen involvement through the reporting of suspicious or criminal activities, posting fraudulent or false information is counterintuitive for law enforcement in their efforts to apprehend suspects and protect the community. Citizens should be reminded that the *Good Faith* law does not protect individuals who knowingly make a false report.

Guidelines should also be established through these policies as to how law enforcement will respond to social media postings and mobile phone crime tips. It is essential that information is verified and validated just like any other means of crime reporting. Law enforcement personnel should attempt to gather and analyze the information obtained, interview witnesses and complainants to determine credibility and work to develop probable cause just as they would in similar complaints with alternative means of crime reporting. Personnel should also be trained on how to legally access social media user accounts for investigatory follow-ups by obtaining the necessary subpoenas and warrants. Protocols should also be established for documenting and investigations activity. Overall, your social media policies should mirror your agencies existing investigations policies or general orders.

The body of literature that was reviewed for developing this thesis did not reveal a current mass transit law enforcement agency General Order or Social Media Policy. If a general order or social media policy exists that is germane to mass transit law enforcement agencies it was not accessible. The author of this thesis through data collection and analysis has attempted to showcase relevant information as suggested by the available literature that should be incorporated into a mass transit law enforcement agency's General Order or Social Media Policy (See Appendix A -Universal Mass Transit Social Media Networks and Mobile Phone Applications General Order Template Policy for Mass Transit Law Enforcement Agencies)

A. IMPLEMENTATION OF A “ONE-STOP SHOP” SMARTPHONE TRANSIT APP

Currently an all-inclusive “one-stop shop” smartphone reporting transit app does not exist. Transit reporting apps are separate for bus, rail and law enforcement incidents. Since most Transit agencies have smartphone applications for reporting rail and bus activities, few agencies have exclusive applications for reporting crime or suspicious activities.

Most crimes or suspicious activities go unreported due to inconvenience in the current crime reporting procedures. Currently you have to wait for a Transit officer to respond to report a crime and customers do not have time to wait.

Recommending a common “one-stop shop” reporting app be developed that streamlines existing Transit apps for customer reporting of rail or bus delays and including suspicious and criminal activities would make customer reporting convenient and customer efficient. This efficiency would increase customer involvement and reporting.

The app would feature drop down menus for Rail, Bus and Transit Police and would afford a clear, concise and easy way for customers to report incidents. The app would be customer focused and free of charge. Amenities of the app would include access to the mass transit agency's social media page, viewing of crime tips and alerts such as BOLOs and missing person photos, and overall afford the customer the opportunity to leave tips or comments.

Smartphone apps should not be implemented that are not customer friendly and easy to use. A template to follow that would ensure whether customers would actually utilize a crime reporting app is the "Open Public Voting on Best Transit Tool" campaign launched by AT&T and Metropolitan Transportation Authority (MTA).

On August 27, 2013, the companies released 49 new apps, which were designed to improve commutes of subway, bus and rail riders. A public voting opportunity was created for the riders to select their favorite transit tool. Similar campaigns can be utilized to launch the "one-stop shop" crime reporting app. Customers are able to view the app beforehand and provide feedback before implementation.

Developing a common Transit app should not take long. Complexity or design should not be an issue since the suggestion is to utilize existing apps that are already featured on platforms such as Google. Selling the idea and getting "buy in" may prove to be a challenge. To overcome these challenges coordination and collaboration between all stakeholders is imperative. This collaborative strategy allows mass transit agencies leaders to redefine their approach to reducing crime and safety while enhancing the public's relationship with mass transit law enforcement, Rail and Bus employees. Cooperation needs to come from the public and community and extend to the top leadership of transit agencies to be successful. Buy-in from all collaborative partners is key for the success of implementation of any strategy.

By streamlining a common "one-stop shop" Transit app with existing carriers or partners such as Google would be cost effective and would provide geo-tagging/location for the crime app, which will provide the customers last known location if service is

interrupted. By using existing carriers start up costs should be minimal due to bundling the smartphone crime tip application with current Transit apps in use.

The implementation of a “one-stop shop” app for mass transit law enforcement departments will decrease crime and increase community involvement. Collaboratively, it would humanize the entire Transit agency while increasing internal and external relations.

By providing a “one stop shopping app,” reported incidents will be vetted directly to the affected organizational entities. As stated earlier in the MBTA case study, the app is not always used by customers to report suspicious and criminal activities. Some customers use it to report train or bus delays. Reports of this nature are forwarded by the dispatcher to the problem related entities. Dispatchers from Transit Police, Rail and Bus transportation would no longer have to be inundated with reports of incidents that are not germane to their area and instead the incidents would go directly to the affected division.

A significant factor that contributes to the overall success of any emerging technology is customer engagement and usage. Providing a common mobile phone application will provide a seamless collaboration of information sharing. By providing a streamlined “one-stop shop” smartphone application you will:

- Reduce crime
- Enhance community trust
- Enhance agency’s reputation
- Increase response times of law enforcement
- Provide more information for officers prior to arriving for calls for service

A “one-stop shop” app could have a significant impact on the safety and security of transportation systems. Mass transit systems will become safer due to the increase of customer reporting of suspicious and criminal activities. Communications will be strengthened between mass transit customers, law enforcement and the transportation agency overall. Customers may finally develop a “sense of community” and connection with the mass transit system by providing a tool for them to become involved.

B. RECOMMENDATIONS FOR FUTURE RESEARCH

A review of the literature did not reveal any data on arrests, case closures or law enforcement calls for service resulting from the use of social media networks. Based upon a gap in the research, determining the efficiency and usefulness of social media and smartphone applications for reporting suspicious and criminal activities is inconclusive. Several recommendations for future study include:

- Research on usefulness of information obtained from reports of suspicious and criminal activities via smartphone applications and social media networks such as Twitter, Facebook and other related social media platforms. Mass transit agencies could benefit from keeping a database of case closures, arrests or crime prevented acts resulting from information linked to social media networks and apps.
- Research on the number of police calls for service would assist mass transit agencies in determining whether or not the use of social media networks and mobile phone applications has increased reporting of suspicious or criminal activities
- Research on the success of crime tips received via Twitter and Facebook in arrests or prevented crimes. A comparison of the results might prompt mass transit agencies to allow customers to report crime tips via these platforms. Currently customers are not afforded this option and instead are encouraged to call the police directly. Analyzing this data may determine whether or not crime prevention tips and citizen involvement are reduced due to the anonymity these mechanisms afford customer versus calling the police

C. CONCLUSION

Social media and mobile phone applications are here to stay and they matter to the public and therefore law enforcement should expect, embrace, and utilize these technologies to their advantage.

Social media is not just a concept and should not be entered into lightly. Law enforcement should outline a strategy plan before implementation just as they would any other crime prevention initiative. For example, law enforcement agencies would not implement a Police Canine Unit without providing the handlers with a dog. With this in

mind, law enforcement agencies should not implement social media technologies without a policy that provides guidelines for use and buy in from the community and all stakeholders involved.

Customers should be able to voice their opinions and suggestions upon implementation. Improvements can be made especially if the social media platforms are not user friendly or encouraging a two-way dialogue. Comments are valuable to the growth of an organization regardless if they are positive or negative. Customer dialog is a key to the success of social media technologies so don't miss out on the opportunity to connect and engage.

**APPENDIX. UNIVERSAL MASS TRANSIT SOCIAL MEDIA
NETWORKS AND MOBILE PHONE APPLICATIONS GENERAL
ORDER TEMPLATE POLICY FOR MASS TRANSIT LAW
ENFORCEMENT AGENCIES**

A. PURPOSE

Your agency's goal in implementing social media networks and mobile phone applications:

Example: The Transit Police Agency utilizes social media to enhance efficient, appropriate and effective communication between the department and the community it serves. Appropriate use of social media will enable the department to achieve its mission and enhance the department's reputation while maintaining our values. This general order is intended to provide clear and concise guidelines for employees to participate in social media networks while preserving the integrity and professional interest of the Department.

B. POLICY

Example of your agency's plan of action:

It is the policy of the Transit Police Agency to allow members to utilize and participate in law enforcement social media and networking sites in accordance with applicable laws, regulations, and agency guidelines. Abusive, unprofessional, profane, demeaning, harassing or threatening messages are prohibited. The Transit Policy agency recognizes and supports the rights of members to engage in personal social media activities while off duty, to the extent that those personal activities do not infringe upon the security or integrity of the agency's mission, operations, employees, customers or facilities.

C. DEFINITIONS

Example of your agency's definition of social media:

Social Media—a category of Internet –based resources that integrate user-generated content and user participations. Includes Facebook, MySpace, Twitter, Instagram, and YouTube. Blog- a self published diary that allows public responses, reactions, or comments.

Tweet—a text message of one hundred forty (140) characters or less that is posted on a Social media site.

D. RESPONSIBILITIES

Examples:

- Members are encouraged to employ good judgment while engaging in social media networking and digital media both on and off duty.
- Participation in social networking sites such as Facebook, Twitter, YouTube or posting tweets should be waged carefully and monitored by the member making the posting to ensure proper professional conduct.
- Where no policy or reference to a specific social media networking site is mentioned, employees should apply professional judgment and apply prudent action if needed, including reporting to the their chain of command.
- Members are prohibited from posting or distributing any official Departmental information, restricted or classified agency documents, photographs, speeches, reports, internal/external communications, videos or evidence obtained while performing in an official capacity or duty related law enforcement assignment for personal use.
- Members will not publish any information that might assist a suspected or guilty person from being arrested or apprehended in a criminal case.
- Members are prohibited from posting on social media networking personal sites or media agency insignia, photographs , logos, or weapons that identify and associates one as a member of the Transit Police Agency.
- Members conduct in engagement on social media networks and activities on and off duty should not cause discredit upon them or affect the reputation or integrity of the Transit Police Agency.
- Members should be cognizant that all social media networking communications, text messaging, and websites correspondence is subject to monitoring by the Transit Police Agency.

- The Transit Police Agency reserves the right to investigate personal social media networks if a breach of this General Order arises.
- Members are prohibited from viewing, posting, tweeting or updating personal social media networks while on duty. Exceptions are members using their personal device while on authorized breaks.
- Accessing law enforcement social media networks is permitted during duty hours.
- Only designated employees by the Chief of Police or his designee are authorized to monitor social networks for policy violations or obtaining significant information
- Text messaging, posting, blogging or tweeting is prohibited by member while operating a Department owned vehicle while on or off duties.
- Violations of this General Order will constitute gross misconduct and neglect of duties, which may result in disciplinary action

E. SOCIAL MEDIA ETIQUETTE

- Members posting blogs that identify them as Transit Police Agency police officers should make a clear and distinct disclaimer that the views expressed are personal and do not represent or reflect upon the Transit Police Agency.
- Members are prohibited from making derogatory, racist or sexist comments. Comments such as these are inconsistent with the duties and responsibilities of being a Transit Police officer undermine the public trust required by members.
- Members are reminded that all posted comments are shared publicly and may be used by Counsel if they relate to potential lawsuits brought against relating to your official duties.
- Social media activities should not interfere with other work related duty assignments

F. DEPARTMENTAL ISSUED EQUIPMENT

- Computers and Cell Phones – Members are prohibited from using Departmental issued computers or cell phones with Internet connectivity to post comments, upload photos, respond to tweets or blog relative to social networking for personal use. Exceptions include:
 - Authorization from the Chief of the Transit Police Agency
 - Utilization of law enforcement social media networks
 - Participation in work related duties such as criminal investigations

G. PHOTOGRAPHS AND VIDEOS

- Members are prohibited from using personal cell phones, cameras or other personal devices to take photos or videos of police crime scenes or persons in police custody
 - Members will only utilize departmental issued cell phones or cameras to obtain photographic evidence unless exigent circumstances exists such as duty related equipment is inoperable and evidence would not be able to be obtained later due to environmental conditions.
 - Photographic evidence taken on personal devices will be transferred to a departmental device without delay. Supervisor(s) will ensure that images are removed from the member's device by the end of their tour.

LIST OF REFERENCES

- Accenture. *Are Policing Forces Maximizing Technology To Fight Crime and Engage Citizens*. Survey, Market Connections, 2012.
- Annear, Steve. "Flight or Fight: Why Do People Film Fights on the MBTA Instead of Stopping Them?" *Boston Magazine*. March 20, 2013. Accessed September 29, 2013. <http://www.bostonmagazine.com/news/blog/2013/03/20/mbta-bystander-effect/>.
- American Public Transportation Association. "Harnessing the Power of Social Media." Survey. APTA, 2012.
- Basu, Indrajit. "Social Media Elevates Community Policing." *Digital Communities*, August 6, 2012. Accessed September 30, 2013. <http://www.digitalcommunities.com/articles/Social-Media-Elevates-Community-Policing>.
- Becker, Andrew and Richard Schulz. "Citizens fear reporting suspicious activity will hurt the innocent." *California Watch*, April 25, 2012, 1–6.
- Big Chip 2013. "*Best Use of Social Media*." 2013. Accessed October 10, 2013, www.bighcipawards.com/page.asp?id=3750.
- British Transport Police. "*British Transport Police Neighbourhood Policing Team Twitter account guidance*." What DoTheyKnow.com. September 13, 2013. Accessed October 10, 2013. http://www.whatdotheyknow.com/request/social_networking_policy.
- "British Transport Police YouTube." YouTube video, April 28, 2011. Accessed October 5, 2013. <http://www.youtube.com/user/btpuk>.
- Burkley, Melissa. "Why Don't We Help? Less is More, at Least When It Comes to Bystanders." *Psychology Today*, November 4, 2009. Accessed September 30, 2013. [http://www.psychologytoday.com/blog/the-social-thinker/200911-why-don't-we-help](http://www.psychologytoday.com/blog/the-social-thinker/200911-why-don-t-we-help).
- Coleman, Amanda. "Greater Manchester Police joining with forces across the globe #poltwt." ConnectedCOPS.net. March 20, 2013, Accessed January 20, 2013. <http://www.connectedcops.net/2013/03/20/greater-manchester-police-joining-with-forces-across-the-globe>.
- Cumberland Times News. "Social media valuable tool in locating missing children." *Cumberland Times News*, June 10, 2013, 1.

- Denef, Bayerl and Nico Kaptein. “*Social Media and the Police - Tweeting Practices of British Police Forces During August 2011 Riots.*” New York: ACM Press, 2013.
- Dezenski, Lauren. “Transit Police Identify Men Who Allegedly Tried to Sell Guns at T Station.” *The Boston Globe*, January 8, 2013. Accessed October 20, 2013. <http://www.bostonglobe.com/metro/2013/01/08/tips-from-public-help-transit-police-identify-two-men-who-tried-sell-guns-airport-station>.
- DiSalvo, David. “Disruptive Technology Meets the Immigration Imagination.” *Psychology Today*, April 30, 2013. Accessed October 20, 2013. <http://www.psychologytoday.com/blog/neuronarrative/201304/disruptive-technology-meets-the-immigration-imagination>
- Domizio, Frank. “Case Study:Philadelphia Pennsylvania Police Department - Thoughts on Content, Data, Analysis and Media.” *IACP Center for Social Media*, February 6, 2013. Accessed September 30, 2013. <http://www.iacipsocialmedia.org/Resources/Case Study>.
- Dumon, Mary. “Crowdsourcing Approach Leads to Arrest of Bombing Suspect.” *Technorati*, April 20, 2013. Accessed September 30, 2013. <http://www.technorati.com/technology/article/crowdsourcing-approach-leads-to-arrests-of>.
- Environment, Information Sharing. “Functional Standard Suspicious Activity Reporting: Version 1.5.” May 21, 2009. Accessed August 20, 2013. <http://www.dhs.gov/xlibrary/assets/privacy/-pla-dhswide-sar-ise>.
- Esteban, Michelle. “In Digital age, social media becoming valuable police tool.” *KOMO News.com*, February 24, 2013. Accessed October 5, 2013. <http://www.komonews.com/nes/local/Police-social-media-becoming-valuable-crime-fighting-tool-2045999161.html>.
- Federal Emergency Management Agency and International Association of Chief’s of Police. “Improving the Public’s Awareness and Reporting of Suspicious Activity: Key Research Findings from Literature Review, Household Surveys, Focus Groups and Interviews.” Survey. Washington, D.C., 2012.
- Federal Emergency Management Agency. “A Resource Guide to Improve Your Community’s Awareness and Reporting of Suspicious Activity.” *FEMA*. February 2012. Accessed March 30, 2013, <http://www.fema.gov/media-library/assets/documents/24352>.
- Forum, U.S. Department of Justice Office of Community Oriented Policing Services & Police Executive Research Forum. “*Social Media and Tactical Considerations For Law Enforcement.*” Report. Washington, DC, 2013.

- Gambacorta, David. "Psycho hammers subway passenger." *philly.com*, September 9, 2008. Accessed September 25, 2013. http://articles.philly.com/2008-09-09/news/24991373_1_attacker-
- Greater Manchester Police. "Radio 4 examines GMP's use of social media." *Greater Manchester Police*, October 8, 2013. Accessed July 15, 2013, www.gmp.police.uk/content.websitespages/A807F7AA0EDCBA6E80257BFE00042EEA1?OpenDocument.
- Hanson, Wayne. "How Social Media Is Changing Law Enforcement." *GovTech*, December 2, 2011. Accessed September 25, 2013, www.govtech.com/public-safety/How-Social-Media-Is-Changing-Law-Enforcement.
- Harper, Lucia. "Crime Stoppers Iphone App Jan 30 2011." *Crime Stoppers*, January 30, 2011. Accessed July 15, 2013. <http://www.crimestoppers.ca/videos/media-releases/crime-stoppers-iphone-app-jan-30-2011/>
- Homeland Security news Wire. "New Jersey Texting against Terror" program a success." *Homeland Security News Wire*, October 11, 2012. Accessed October 15, 2013. <http://www.homelandsecuritynewswire.com/dr20121011-new-jersey-texting-against-terror-program-a-success>.
- . "Boston Police Using Twitter to Nab Bad Guys," August 10, 2010. Accessed October 15, 2013. <http://www.homelandsecuritynewswire.com/boston-police-using-twitter-nab-bad-guys>.
- Hymon, Steve. "Metro Introduces smartphone security app to report transit related crimes." *The Source*, June 26, 2013. Accessed October 5, 2013, www.the-source.metro.net/2013/06/26/metro-introduces-smart-phone-security-app-to-report-transit-related-crimes
- IACP Center for Social Media. "2012 Survey Results." *IACP Center for Social Media*. Accessed August 2012, www.acpsocialmedia.org/Resources/.../2012Results.aspx
- . "Social Networks." *IACP Center For Social Media*, 2010–2013. Accessed October 20, 2013. <http://www.iacpsocialmedia.org/Technologies/>.
- International Association of Chiefs of Police. "International Association of Chiefs of Police global leadership in policing." *IACP Technology Center*, 2013. Accessed October 20, 2013. <http://www.theiacp.org/technology/tabid/72/default.aspx>.
- International Association of Chiefs of Police. "Increasing Your Social Media Presence Fact Sheet." *IACP Center for Social Media*, December 2011. Accessed October 20, 2013. <http://www.iacpsocialmedia.org/Portals/1/documents/FactSheets/IncreasingYourPresenceFactSheet.pdf>.

- International Association of Chiefs of Police. "Social Media and Crime Prevention Fact Sheet." *IACP Social Media*, December 2012. Accessed September 28, 2013. [http://www.iacpsocialmedia.org/Portals/1/documents/FactSheets/Crime Prevention Fact Sheet.pdf](http://www.iacpsocialmedia.org/Portals/1/documents/FactSheets/Crime%20Prevention%20Fact%20Sheet.pdf).
- Kelly, Heather. "Police Embrace Social Media As Crime-Fighting Tool." *CNN.com*, August 30, 2012. Accessed July 15, 2013. <http://www.cnn.com/2012/08/30/tech/social-media/fighting-crime-social-media>.
- Knell, Noelle. "Police Use Pinterest to Combat Street Drug Proliferation." *Government Technology*, February 22, 2013. Accessed August 20, 2013. <http://www.govtech.com/Police-Use-Pinterest-to-Combat-Street-Drug-Proliferation.html>.
- LexisNexis Risk Solutions. "Role of Social Media in Law Enforcement Significant and Growing." *LexisNexis*, July 18, 2012. Accessed July 30, 2013. <http://www.lexisnexis.com/risk/newsevents/press-release.aspx?id=1342623085481181>.
- LexisNexis Risk Solutions. "Survey of Law Enforcement Personnel and Their Use of Social Media in Investigations." *Lexis Nexis*, March 2012. Accessed October 5, 2013, www.lexisnexis.com/investigations.
- Lioni, Kaitlyn. "NFTA launches smartphone app to enhance transit system safety." *Buffalo YNN*, June 6, 2013. Accessed August 20, 2013. <http://www.buffalo.ynn.com/content/news/667997/nfta-launches-smartphone-app-to-enhance-transit-system-safety>.
- Ly, Heather. "Police Agencies Using Social Media to Solve Crimes." *WGRZ 2 News*, February 2013. Accessed August 25, 2013. <http://www.wgrz.com/rss/article/202822/13/Police-Agencies-Using-Social-Media-to-Solve-Crimes>.
- McDermott, Jasmin. "Technology Increases Public's Help With Investigations." *Police Oracle*, February 6, 2013. Accessed July 20, 2013. [http://www.policeoracle.com/news/Technology-Increases-Public's Help-With-Investigations_60846.html](http://www.policeoracle.com/news/Technology-Increases-Public's-Help-With-Investigations_60846.html).
- Melissa Burkley, Ph. D. "Why Don't We Help? Less is More, at Least When It Comes to Bystanders." *Psychology Today*, November 4, 2009. Accessed September 30, 2013. <http://www.psychologytoday.com/blog/the-social-thinker/200911/>.
- Meridan -ITV News. "Crime text initiative welcomed" *Meridan ITV News*, March 6, 2013. Accessed October 3, 2013. <http://www.itv.com/news/meridian/topic/text>.

- Meyer, Claire. "Smartphone Apps Streamline Mass Notification." *Security*, September 4, 2012. Accessed July 10, 2013. <http://www.securitymagazine.com/articles/83457-smartphone-apps-streamline-mass-notification>.
- Mueller, Robert S. "The Threat of Homegrown Terrorism." *The FBI Federal Bureau of Investigation*, June 23, 2006. Accessed September 4, 2013, www.fbi.gov/news/speeches/the-threat-of-homegrown-terrorism.
- Murchison, Adrienne. "MARTA Introduces Public Safety App for Suspicious Activity." *Sandy Springs Patch*, March 30, 2013. Accessed September 20, 2013. <http://www.sandysprings.patch.com/groups/editor-picks/p/marta-introduces-public-safety-app-for-suspicious-activity>.
- Newman, Stephanie. "The Mind of a Hero." *Psychology Today*, November 7, 2011. Accessed September 30, 2013, www.psychologytoday.com/blog/apologies-freud/201111/the-mind-hero.
- Nielsen Newswire. "Social Media Report 2012: Social Media Comes of Age." *Neilsen Newswire*, December 3, 2012. Accessed October 5, 2013. <http://www.nielsen.com/us/en/newswire/2012/social-media-report>.
- The Newswire. "PageOne aid British Transport Police tackle travel crime through text service." *PageOne*. June 3, 2013. Accessed October 5, 2013, www.pageone.co.uk/british-transport-police-crime-text-service-7005.htm.
- Parker, Kathleen. "Steubenville and the online bystander effect." *The Washington Post Opinions*, March 19, 2013. Accessed September 30, 2013, http://www.articles.washingtonpost.com/2013-03-19-/opinions/37841997_1_bystander-effect-social-media-kitty-genovese.
- Pearson, Adrian. "Northumbria Police need 2m for Smartphones and tablets." *Chronicle Live*, August 10, 2013. Accessed July 16, 2013. <http://www.chroniclive.co.uk/news/northumbria-police-need-2m-smartphones-5694256>.
- Peberday, Laura. "Smartphone app launched to improve safety on public transport." *News4Brum*, March 13, 2013. Accessed July 15, 2013. <http://www.news4brum.wordpress.com/2013/03/13/smart-phone-app-launched-to-improve-safeti-y-on-public-transport>.
- Pepalis, Bob. "MARTA Introduces See & Say App." *Alpharetta Patch*, March 3, 2013. Accessed July 15, 2013, www.alpharetta.patch.com/groups/editors-picks/p/marta-introduces-see-say-app.

- Petrie, Joe. "VTA App Allows Passengers to Discreetly Report Crime." *Mass Transit Magazine*, May 23, 2013. Accessed July 16, 2013, www.masstransitmag.com/article/10947687/vta-app-allows-passengers-to-discreetly-report-crime.
- The Police Chief. "Technology Talk." *Police Chief Magazine*, February 2011: 78–82.
- Richardson, Chris. "Manchester Police Use Social Media To Track Down Rioters - The Greater Manchester Police is quite savvy at social media." *WebProNews/Social Media*, August 15, 2011. Accessed September 20, 2013, www.webpronews.com/manchester-police-use-social-media-to-track-down-rioters-2011-08.
- Roberts, David J. "Technology's Impact on Law Enforcement - Community Interaction." *The Police Chief*, November 2013. Accessed July 20, 2013, www.policechiefmagazine.org/magazine/index.cfm?fuseaction=display_arch&article_id22011.
- Rocheleau, Matt. *MBTA Launches Android Version of Free Mobile "See Say" app for Reporting Suspicious Activity*. 2012 17-July. Accessed July 15, 2013, www.boston.com/yourtown/news/allston_brighton/2012/07/mbta_launches_android_version_html.
- RTA. "iWatchRA- Customers Can Send Police Text and Photos." *RTA*. February 5, 2013. Accessed July 15, 2013. <http://www.riderta.com/news/iwatch-customers-can-send-police-text-and-photos>.
- Safer Travel Partnership. News: "See Something, Say Something mobile phone app launched." June 3, 2013. Accessed October 5, 2013. http://www.safertravel.info/news_more.
- Schlosser, Nicole. "Apps Helping to Enhance Riders Experience." *Metro Magazine*, June 2013. Accessed September 20, 2013, www.metro-magazine.com/article/story/2013/06/helping-to-enhance-riders-experience.
- Shepherd, Pamela A. "Transit Police: Fighting the Fight On the Move." *Eno Center for Transportation*, 2013. Accessed October 5, 2013. <http://www.enotrans.org/eno-brief/transit-police-fighting-the-fight-on-the-move>.
- Shpancer, Noam. "Bystanders and Heroes: The Dance of Defiance and Conformity." *Psychology Today*, December 26, 2012. Accessed September 30, 2013, www.psychologytoday.com/blog/insight-therapy/201212/bystanders-and-heroes-the-defiance-and-conformity.
- Sommers, Sam. "Why Crowds Make Us Callous." *Psychology Today*, October 19, 2011. Accessed September 30, 2013, www.psychologytoday.com/blog/science-small-talk/201110/why-crowds-make-us-callous.

- Staub, Ervin. "Our Power as Active Bystanders." *Psychology Today*, January 12, 2012. Accessed September 30, 2013. <http://www.psychologytoday.com/blog/in-the-garden-good-and-evil/201201/our-power-active-bystanders>.
- Stevens, Lauri. "Social Media in Policing: Nine Steps for Success." *Police Chief Magazine*, February 2010: vol. LXXVII, no. 2.
- Summers, Sam. "Why Crowds Make Us Callous." *Psychology Today*, October 19, 2011. Accessed September 28, 2013, www.psychologytoday.com/blog/science-small-talk/201110/why-crowds-make-us-callous.
- Susan, James. "NFTA launches mobile app for safety reporting." *The Transit Wire.com*, June 7, 2013. Accessed July 15, 2013, www.thetransitwire.com/2013/06/07/nfta-launches-mobile-app-for-safety-reporting.
- Susskind, Jane. "Law Enforcement and Social Media: Fighting Crime, One Tweet at a Time." *Independent Voter Network (IVN)*, February 16, 2013. Accessed July 9, 2013. <http://ivn.us/2013/02/16/law-enforcement-and-social-media-fighting>.
- Tanaka, Chris, and Shino Hsiung. "The Social Media Beat Law Enforcement's Use of Social Media and the Perception of Rising Crime." *IACP Center For Social Media*.
- Third Parent. "Let's Stop the Bystander Effect - Now." *ThirdParent*, June 20, 2013. Accessed September 30, 2013. <http://www.thirdparent.com/lets-stop-the-bystander-effect-now>.
- Transportation Research Board. "TCRP Synthesis 99 - Uses of Social Media in Public Transportation." Washington, D. C., 2012.
- Verint. "Metro Transit Extends Investment in Video and Situation Intelligence Solutions from Verint to Help Monitor and Secure Growing Transportation Network." *Verint*, May 1, 2013. Accessed July 15, 2013. <http://www.verint.com/news/events/press-releases/2013-press-releases/05-01-2013>.
- Weichselbaum, Simone. "Crime fighters in Brooklyn are using social media to catch dumb gangsters flaunting illegal weapons." *New York Daily News*. February 6, 2013. Accessed September 20, 2013. <http://www.nydailynews.com/new-your/cops-social-media-guns-streets-article-1.1257445>.
- Welter, Ashley. "5 Ways Police Use Social Media To Solve Crime." *Instant Checkmate Blog*, August 1, 2013. Accessed August 20, 2013. <http://www.blog.instantcheckmate.com/5-ways-police-use-social-media-to-solve-crime>.

- West Midlands Police. "West Midlands Police to host International Conference showcasing innovative use of social media." *West Midlands Police*, July 2, 2013. Accessed September 10, 2013. <http://www.west-midlands.police.uk/np/conventry/news/newsitem.asp?id=13669>.
- Wethal, Christa M. and Tabatha Miller. "Social Crisis Response." Officer.com, January 25, 2011. Accessed September 20, 2013. <http://www.officer.com/article/10222589/social-crisis-response>.
- Willis, Sarah Michelle. "Greater Manchester Police." *2 Communicate PR & Social Media Specialists—2 communicate blog*, July 13 2013. Accessed October 5, 2013. <http://www.2communicateblog.wordpress.com/tag/greater-manchester-police>.
- Zchut, Eugene and Moshe Aronsky. "Law Enforcement and Social Media." *Top SEO Blog*, September 26, 2012. Accessed August 20, 2013, [99http://www.netlz.com/seo-blog/2012/09/26/law-enforcement-and-social-media](http://www.netlz.com/seo-blog/2012/09/26/law-enforcement-and-social-media).

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California