



This document analyzes the Mass Notification System launches of Yolo County in response to the 2020 LNU Lightning Complex Fire

LNU Lightning Complex Fire Mass Notification Review

Launch Analysis

August 28, 2020



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OVERVIEW

PURPOSE

In a direct response to public feedback and to ensure that the Yolo Operational Area Mass Notification system operates at top efficiency, this analysis is provided as a very high-level review of Mass Notification launch errors that happened during the 2020 LNU Lightning Complex Fires.

This report does not provide analysis of individual user accounts which may contain errors preventing a launch from reaching the end user. Users who think they did not receive a notification outside the scope of this report, or those who would like a review of their independent user profile, can contact the Yolo County Office of Emergency Services at anytime for a review of their personal profile.

SUMMARY

A high level review of the Mass Notification launches for the initial onset of the 2020 LNU Lightning Complex fire indicate that while the electronic system used to launch Mass Notifications within Yolo functioned as designed, all voice calls that were launched by the system were rejected in a “downstream communication error.” At the time of this review, additional analysis are currently being performed by the manufacturer of the system and their associated telecom providers to isolate where in the communications chain these errors occurred.

A downstream communication error is an error code that is typically experienced for any one of the following circumstances:

- The infrastructure is physically damaged (as is the case when telephone poles or cell towers are burned)
- The end users handset (i.e. phone) rejects the call for any reason
- The end users telecom provider (i.e. phone service or mobile carrier) rejects the call (such as the case when the call is indicated to be spam)

Since 100% of the voice calls were not delivered (landline or cellular) during this launch the next step to the root cause analysis will be to find out if telecom providers rejected these calls as spam.

HISTORY & CONCLUSIONS

During this review it was found that there were several factors that led to the non-delivery of voice communications including:

- Since the purchase of Yolo’s Mass Notification system, the County has always used a caller ID of 999-999-9999 so that individuals could visually and easily recognize the Mass Notification system calls.
- In 2019 SB208 was passed that attempted to decrease the number of robo calls experienced by end users. It prompted telecom providers to create digital algorithms to deny robo calls.

- In October 2019 Yolo County changed the default setting of its Mass Notification system to use a new number 833-CAL-ALERT (833-422-5253) to prevent the calls being from denied by the telecommunications industry.
- During the review of this data, it was found that the previously programmed evacuation templates did not used the new 833 number but rather reverted to the original all 9's number.

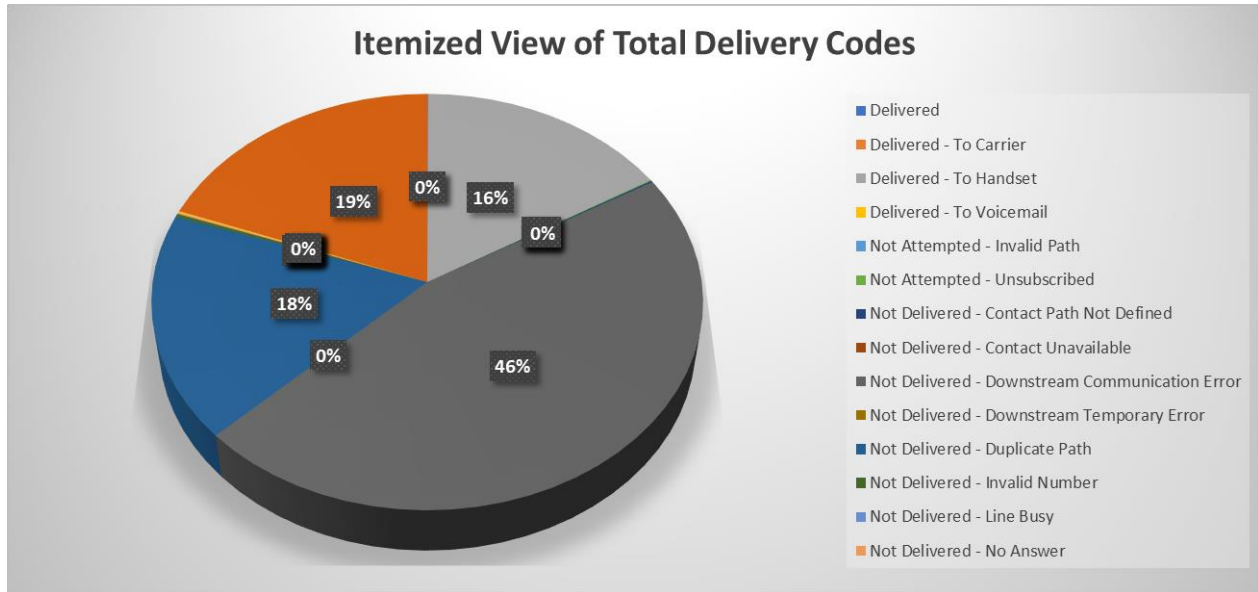
All of these factors lead to an initial hypothesis that the use of the previous caller ID coupled with the new robo call control infrastructure present in today's telecom system, Yolo County's voice mass notification calls ended up not being delivered to the end users while most data communications systems did succeed.

DATA SUMMARY

The numbers and charts below are a raw summary of the data from the launches across all evacuation zones which have simply been added without data manipulation. Delivered and Not Delivered status have been added together but do not necessarily indicate that the user did not receive as notification. One example of this is an alert which is "Not Delivered" due to a "Duplicate Path." This indicates that the system already identified that the number or device had been previously sent to in the notification.

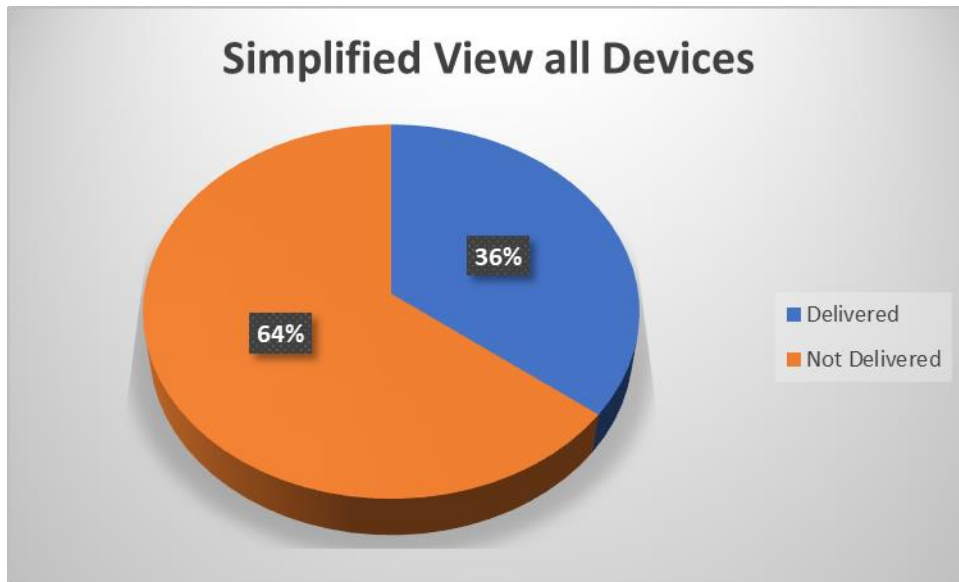
ITEMIZED VIEW OF TOTAL DELIVERY CODES

This chart displays the original delivery codes from the Mass Notification system.



SIMPLIFIED VIEW ALL DEVICES

This chart displays the original delivery codes added into two basic categories.



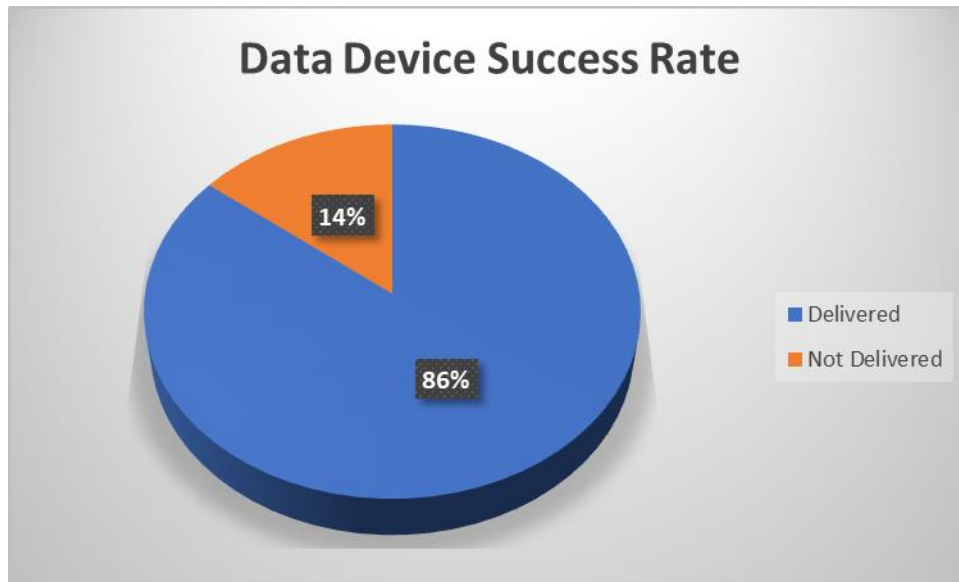
VOICE CALL SUCCESS RATE

This chart displays the original delivery codes that pertain to voice calls ONLY, added into two basic categories.



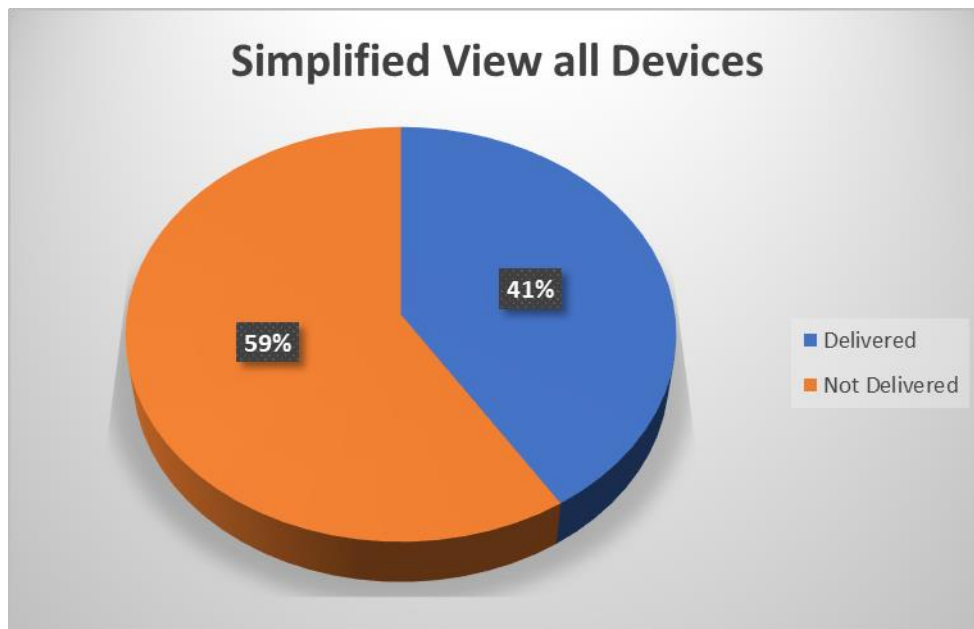
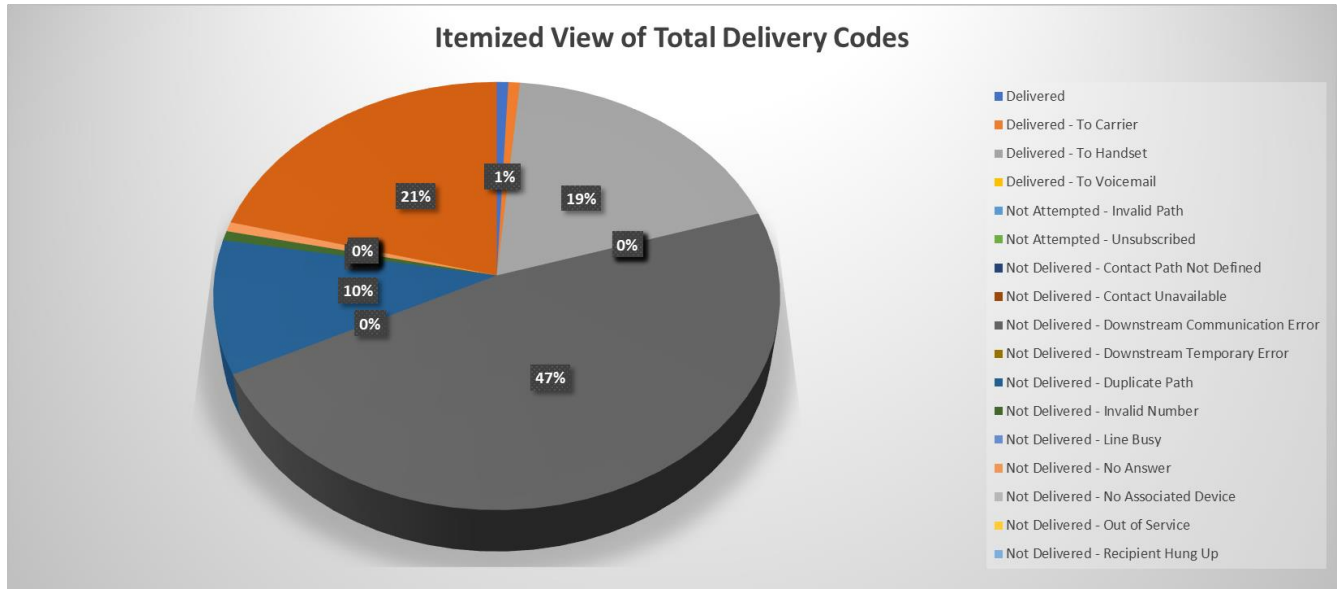
VOICE CALL SUCCESS RATE

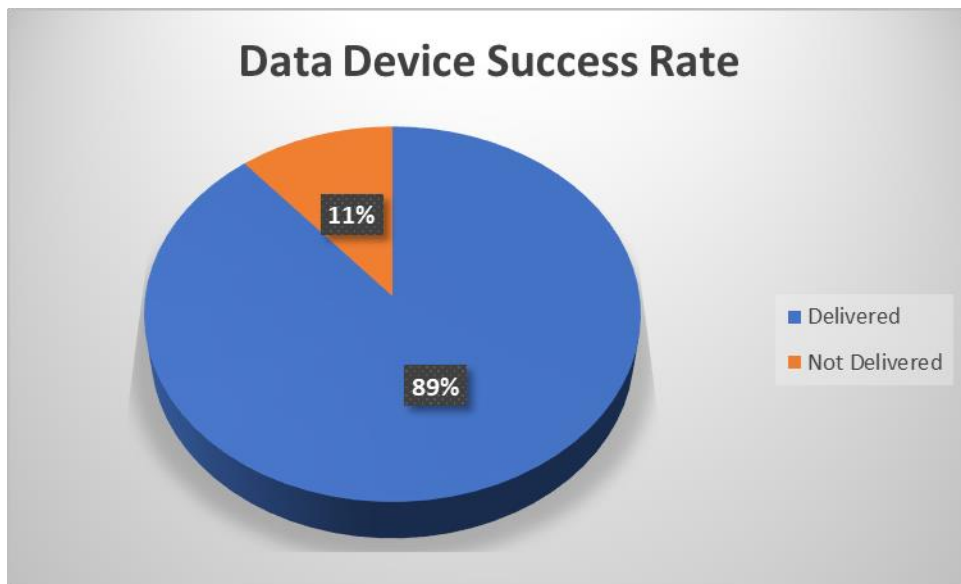
This chart displays the original delivery codes that pertain to data devices ONLY, added into two basic categories.



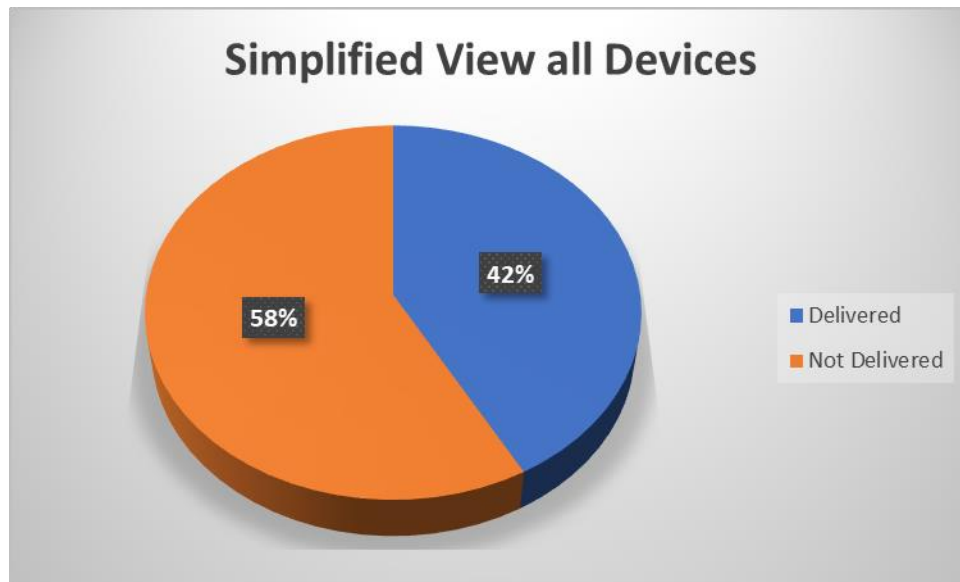
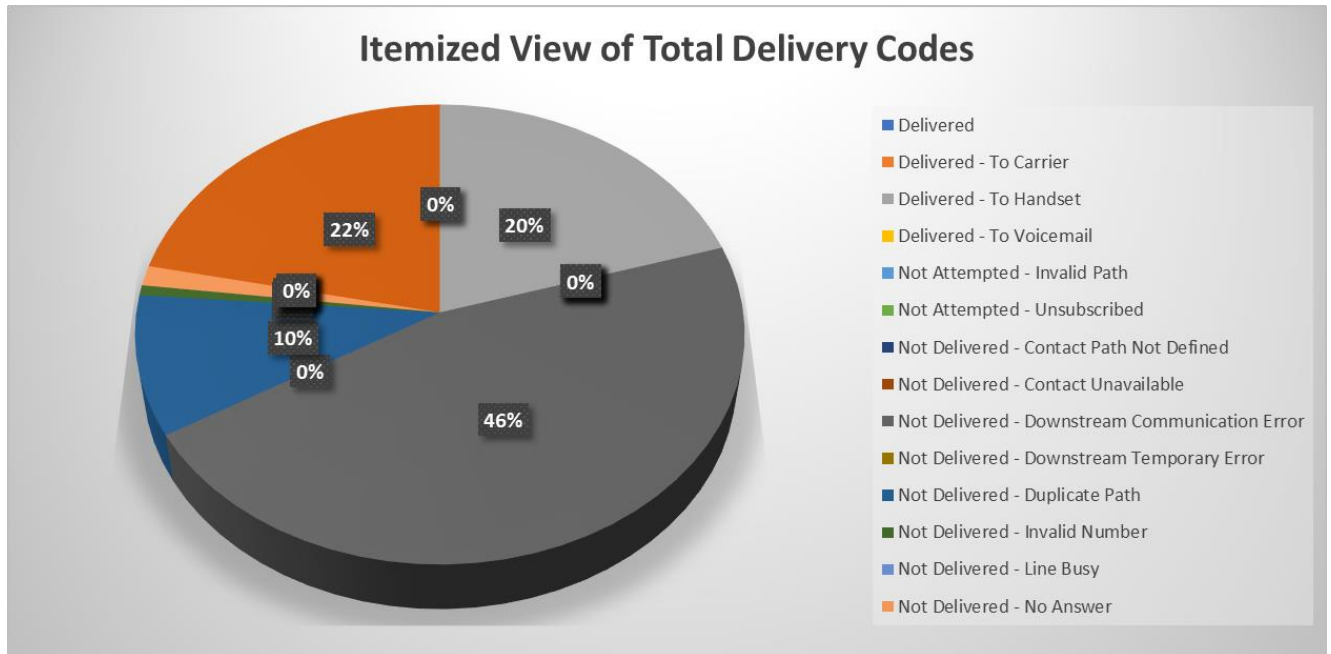
Subsequent sections of this report break down the analysis by individual evacuation zones.

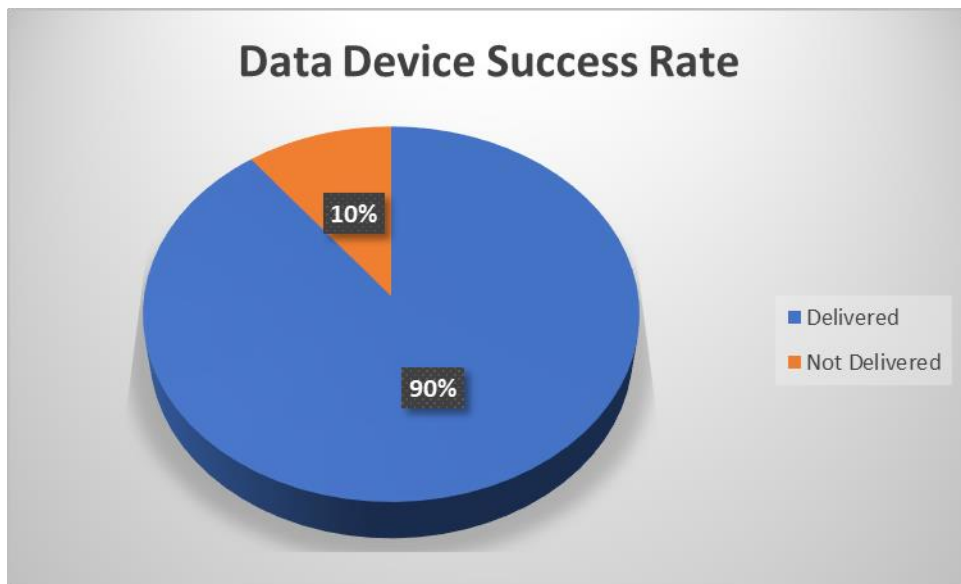
ZONE 1 ADVISORY ORDER



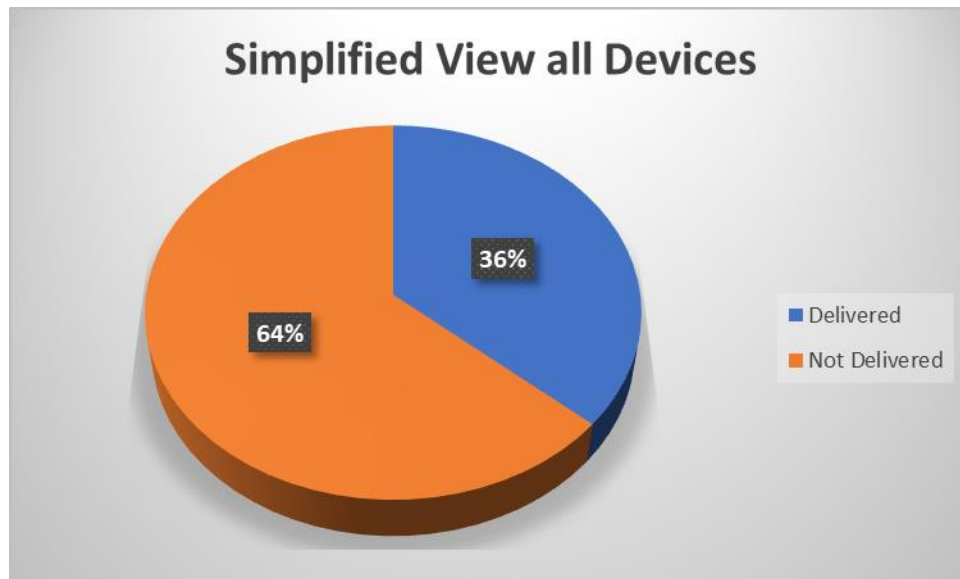
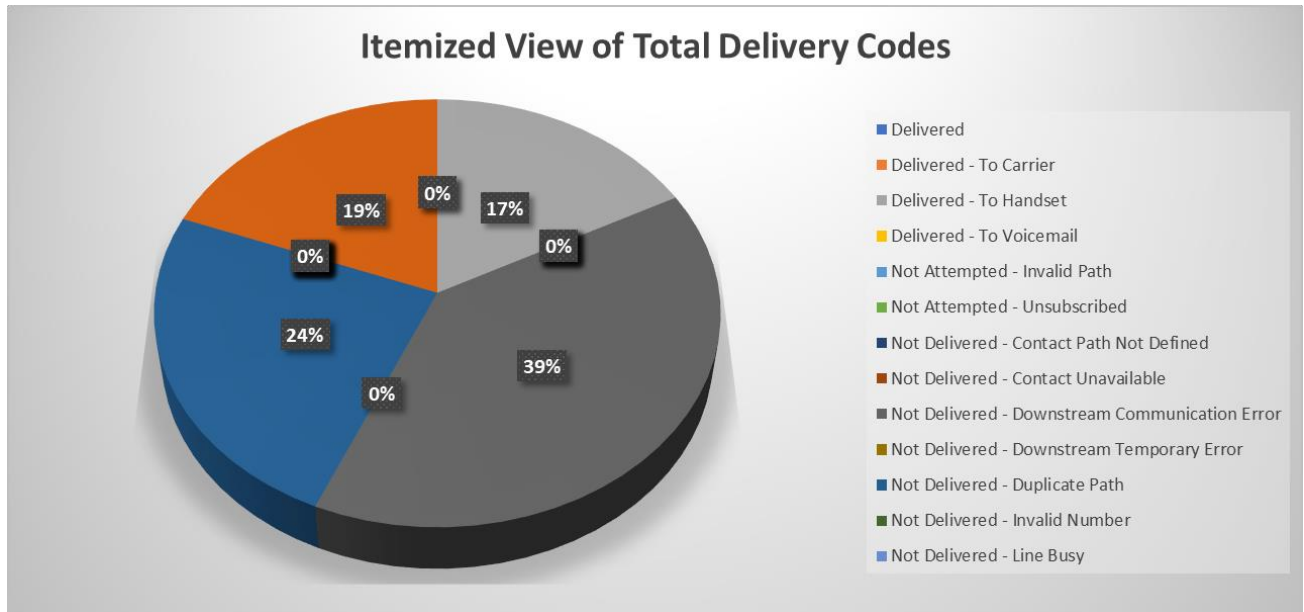


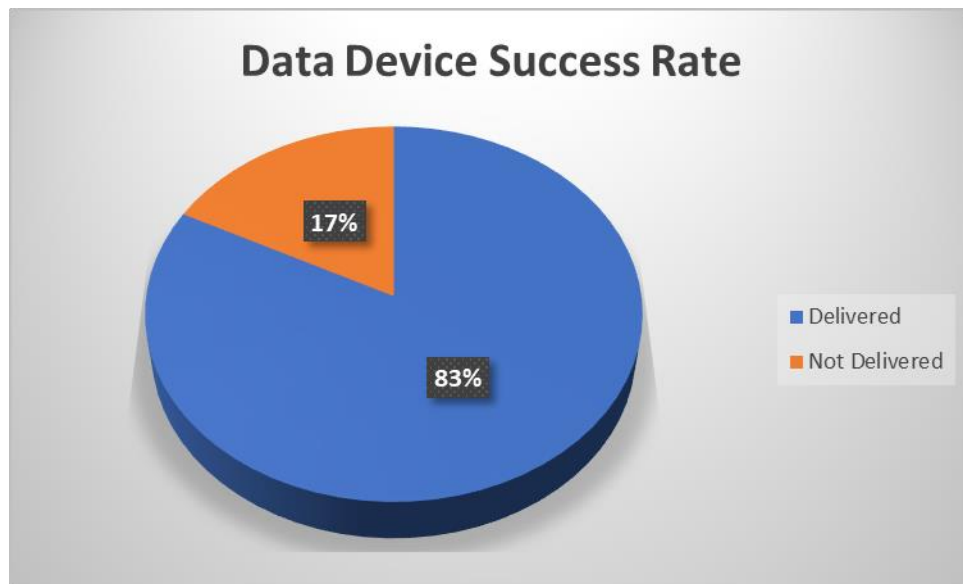
ZONE 1 MANDATORY ORDER



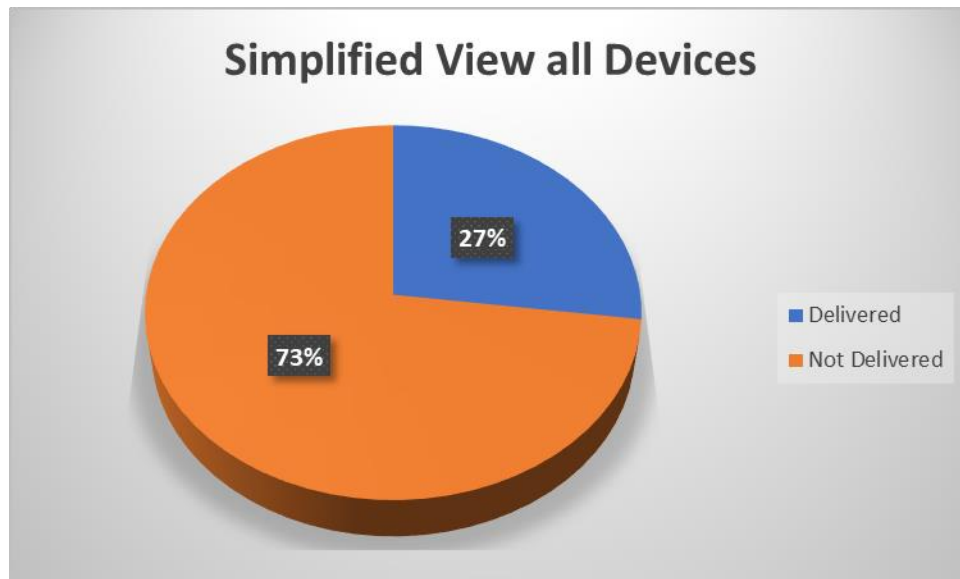
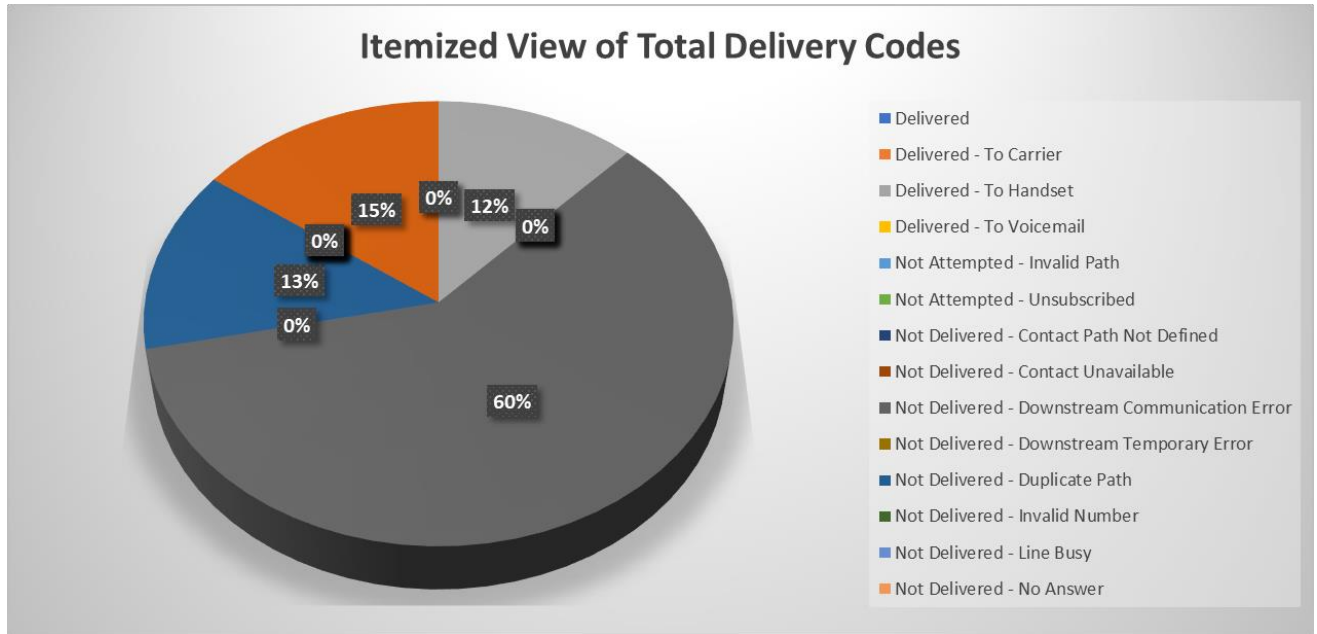


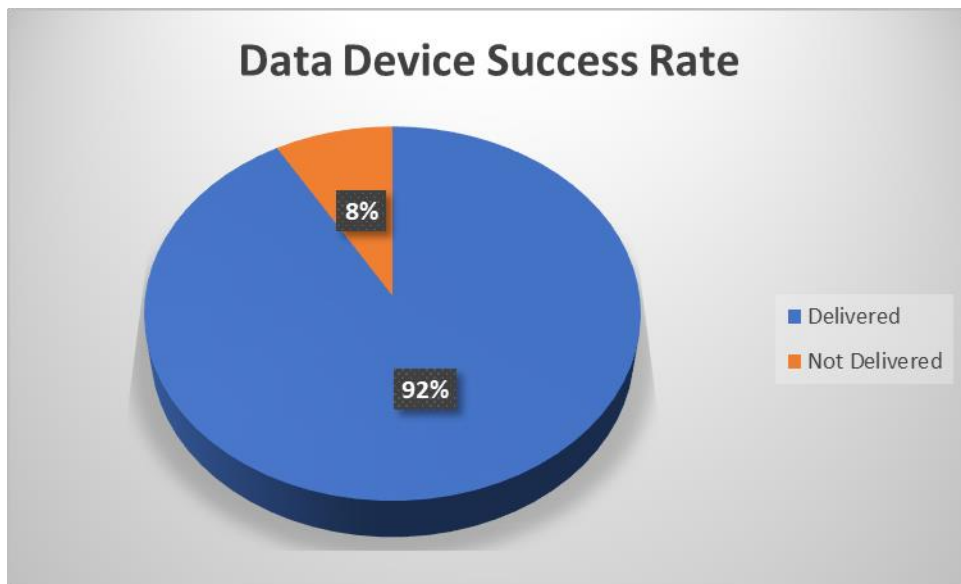
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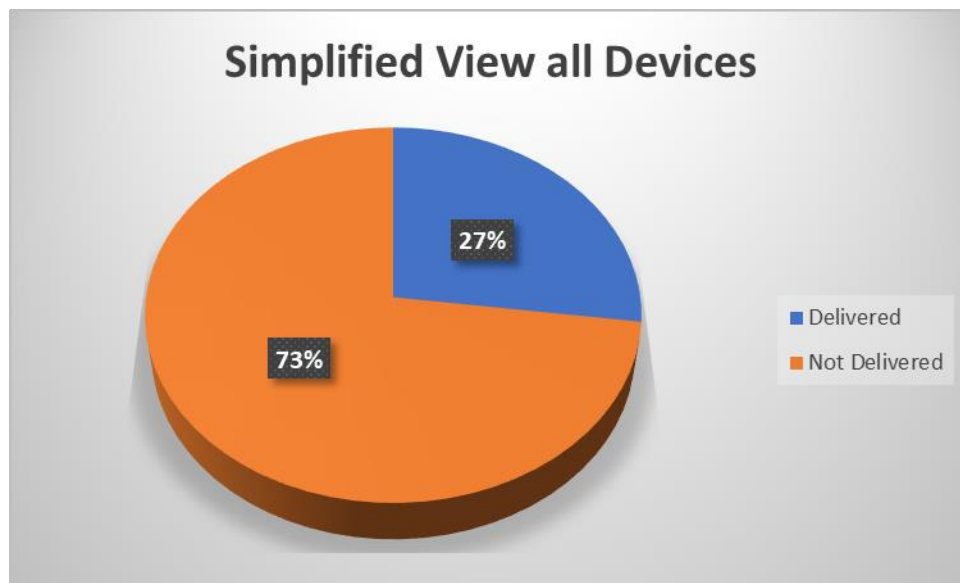
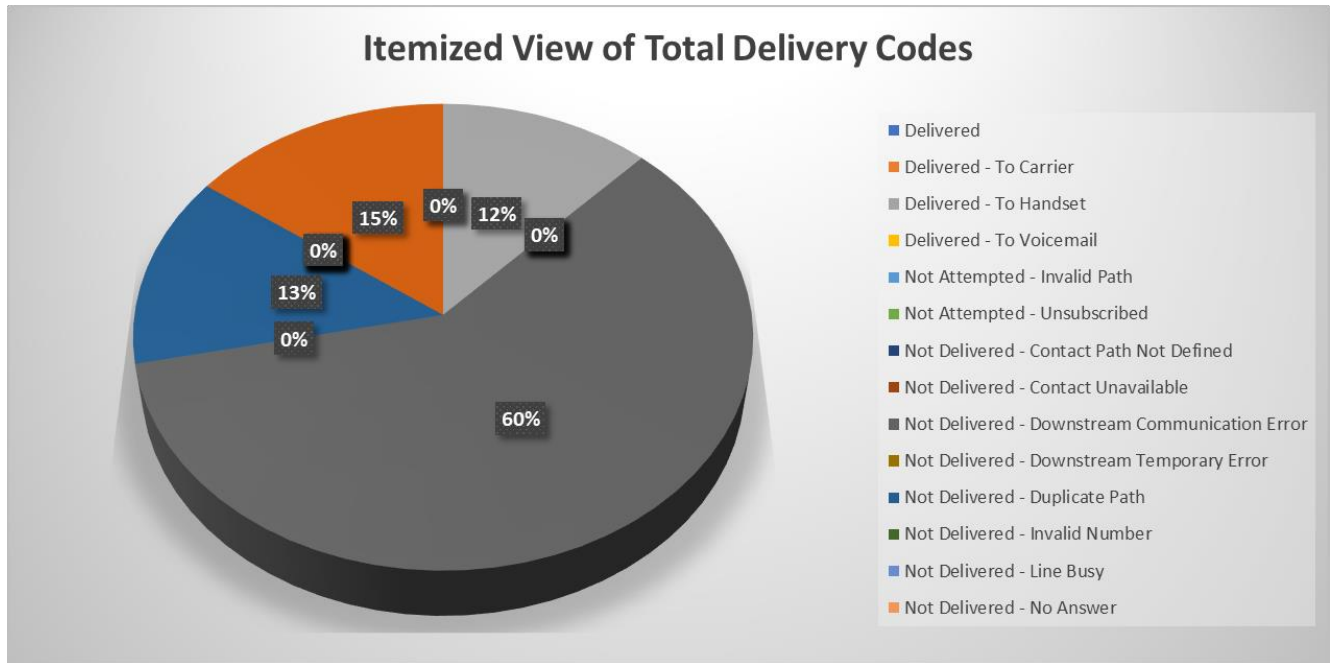


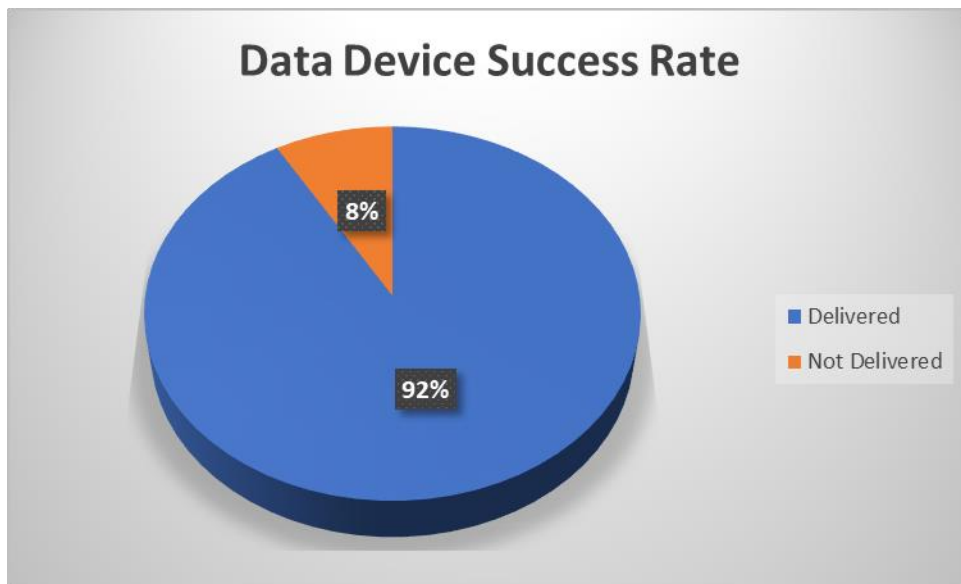
ZONE 8 ADVISORY ORDER



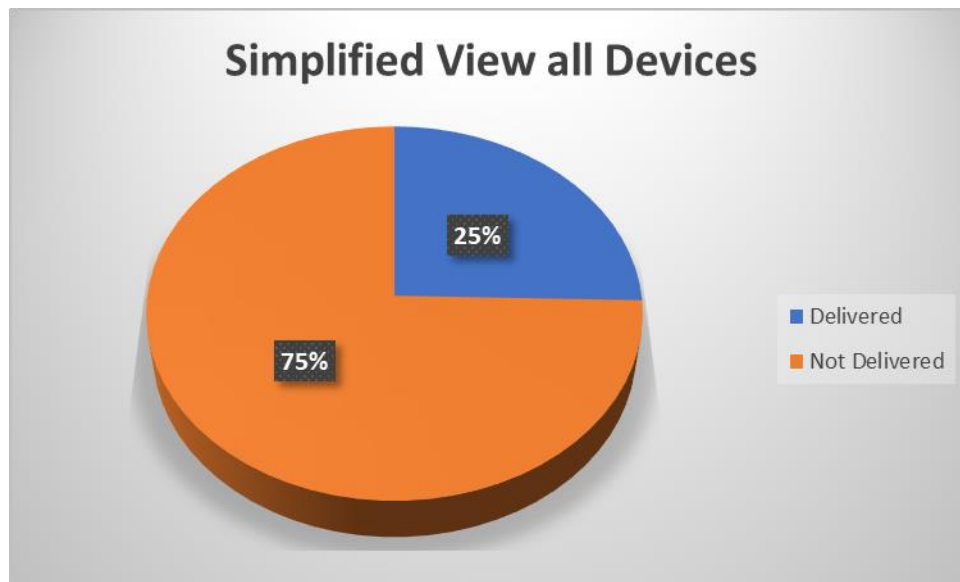
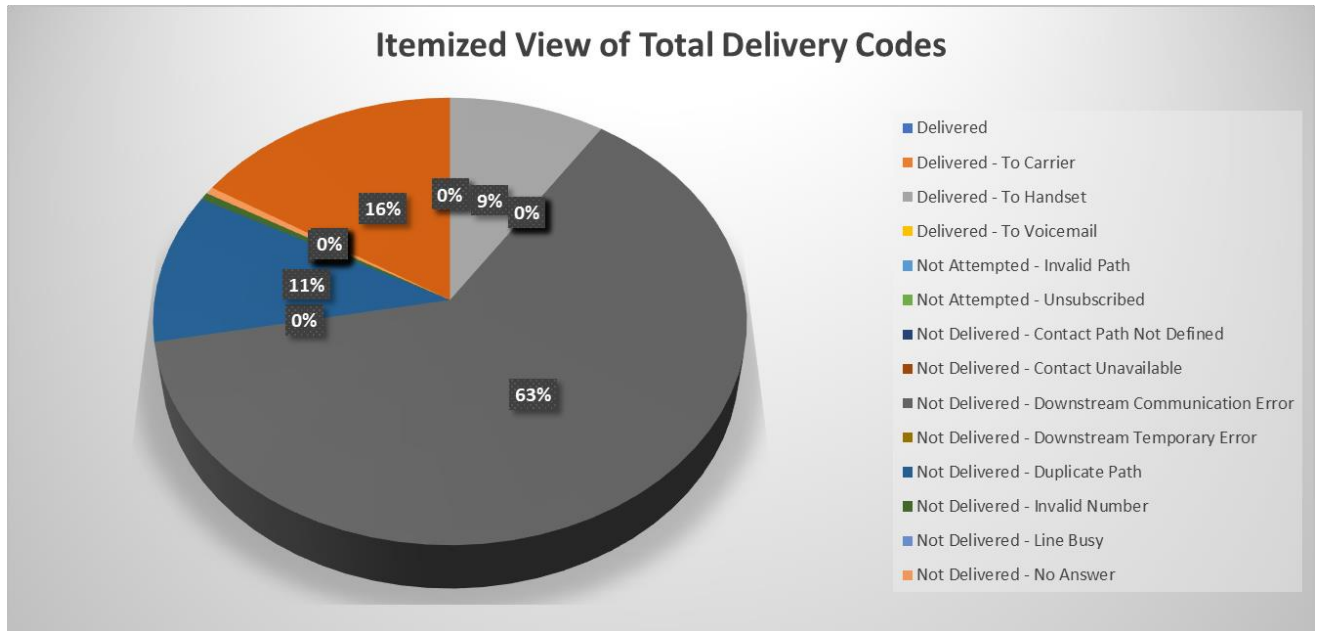


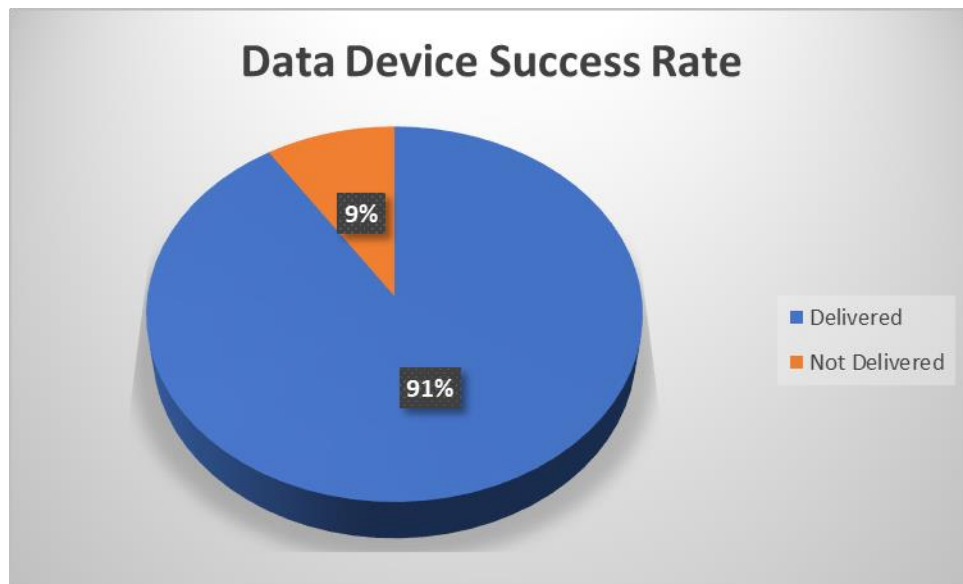
ZONE 8 MANDATORY ORDER



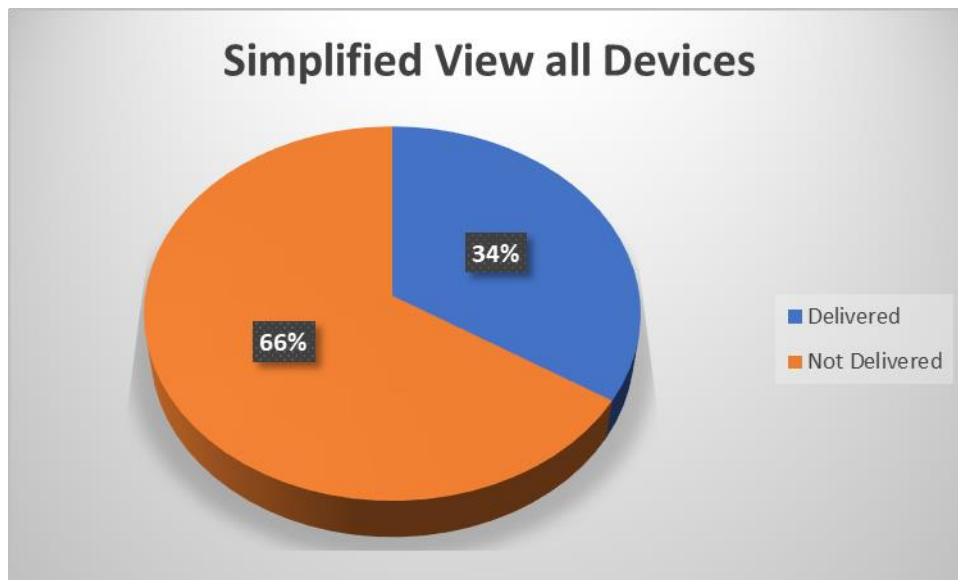
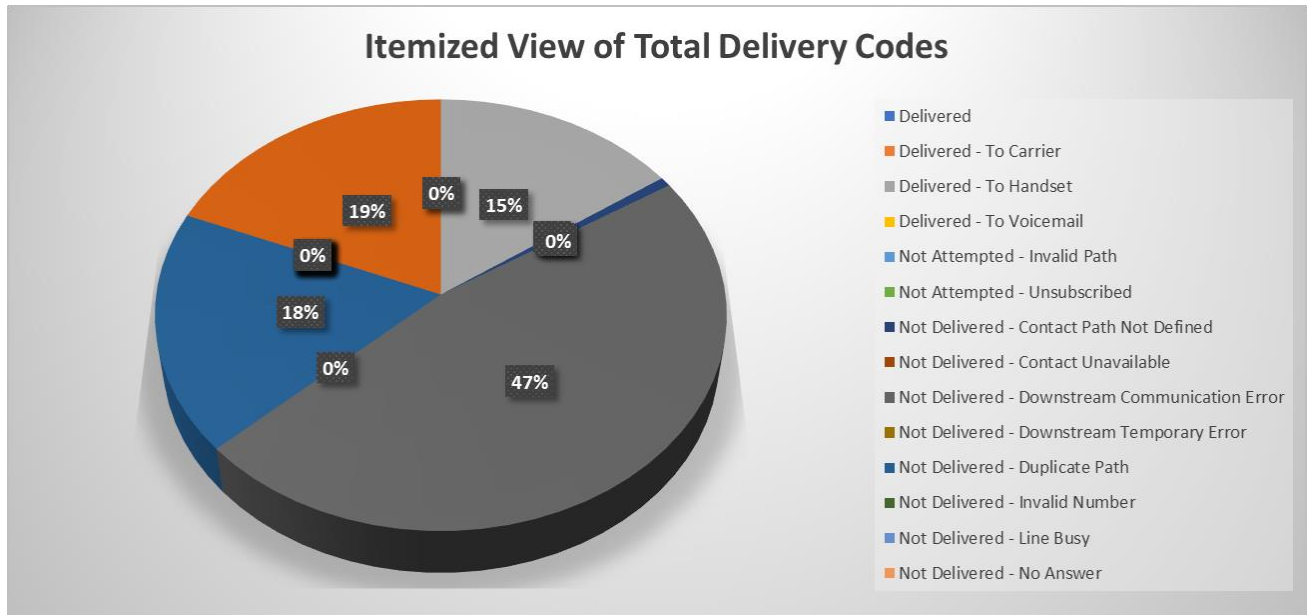


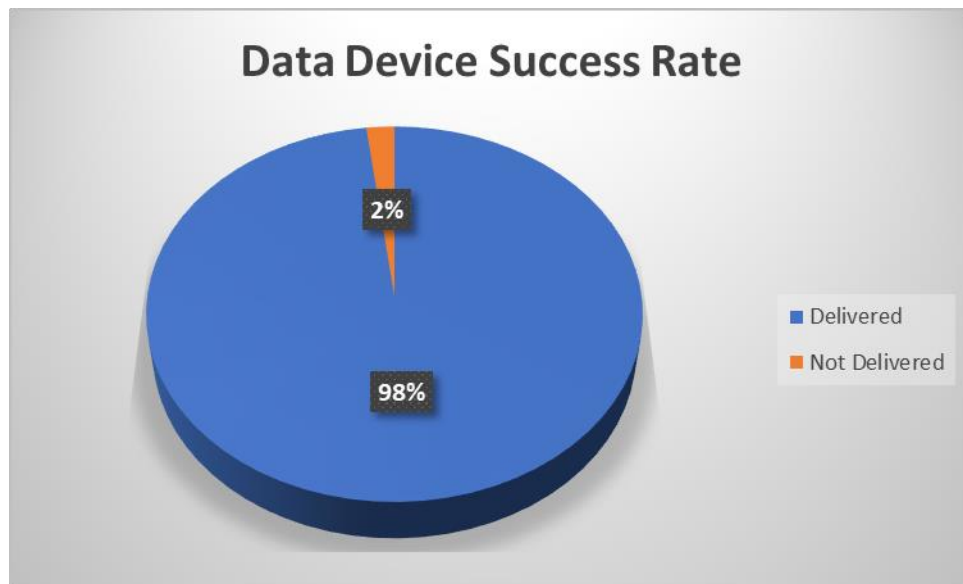
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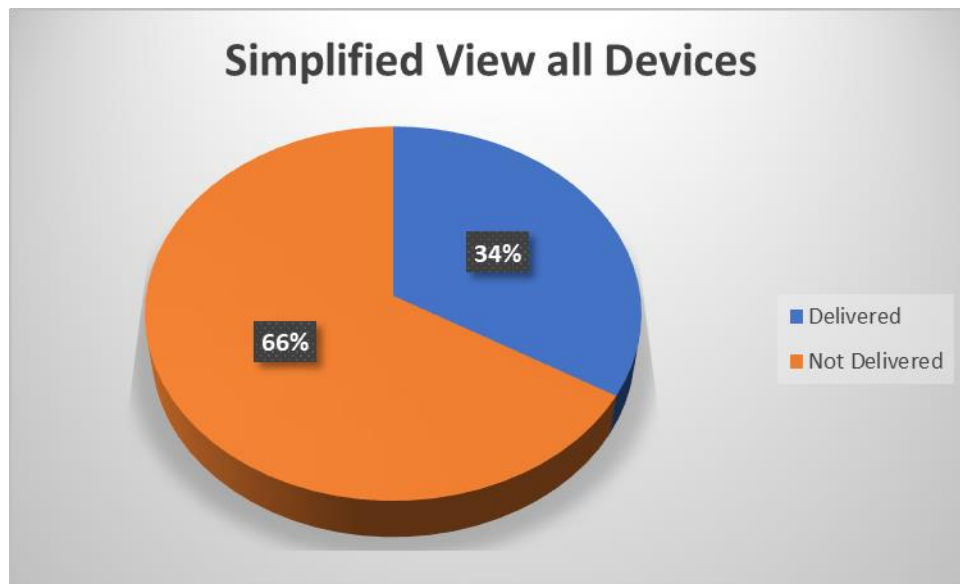
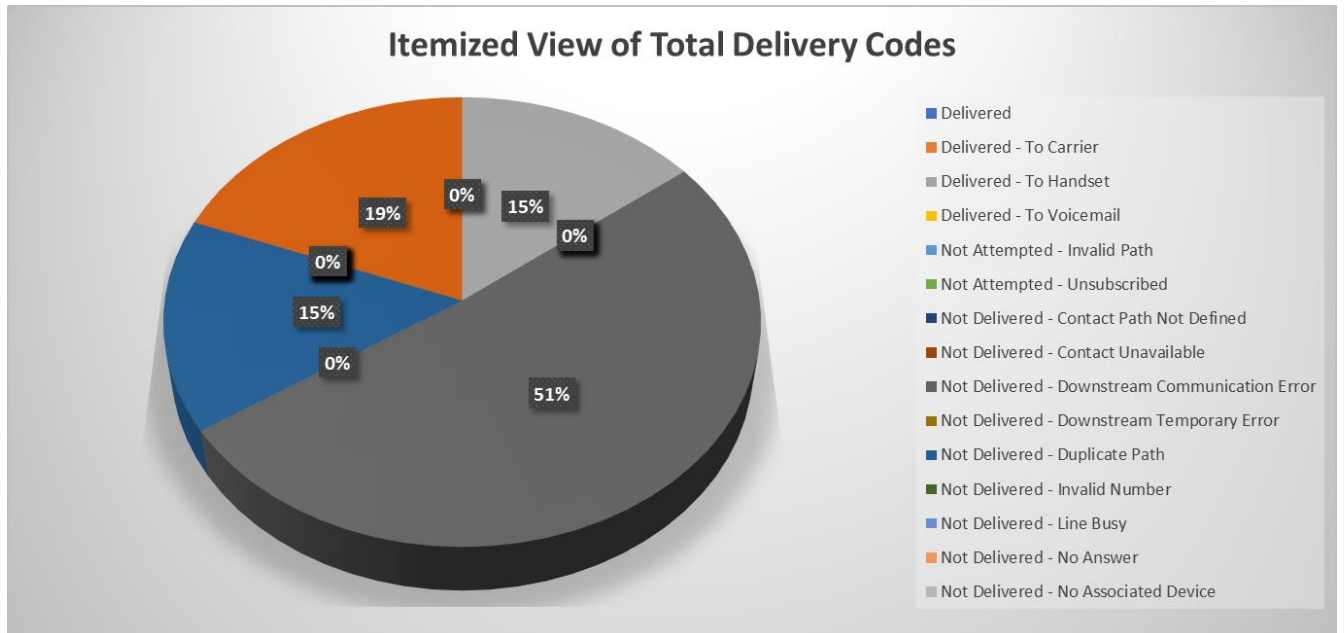


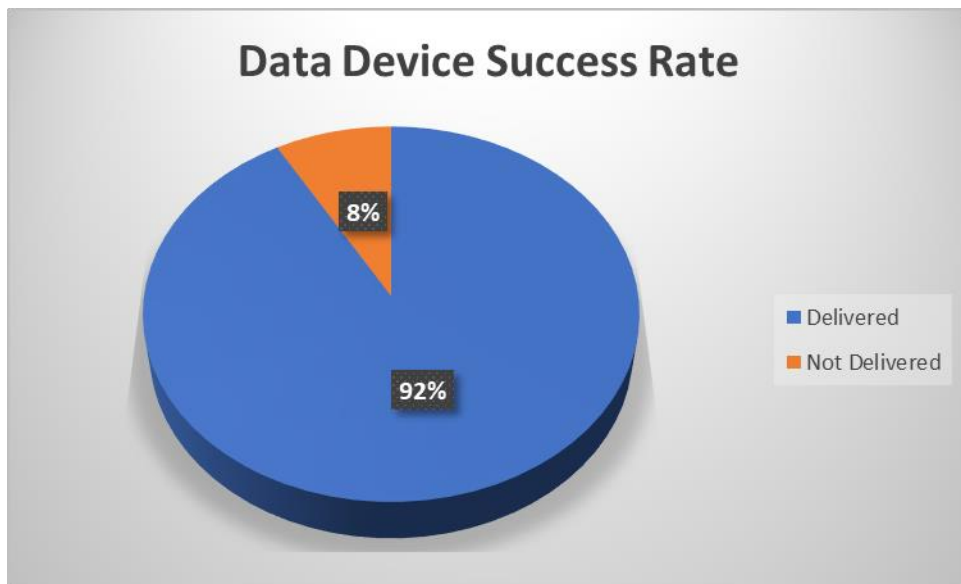
ZONE 15 MANDATORY ORDER



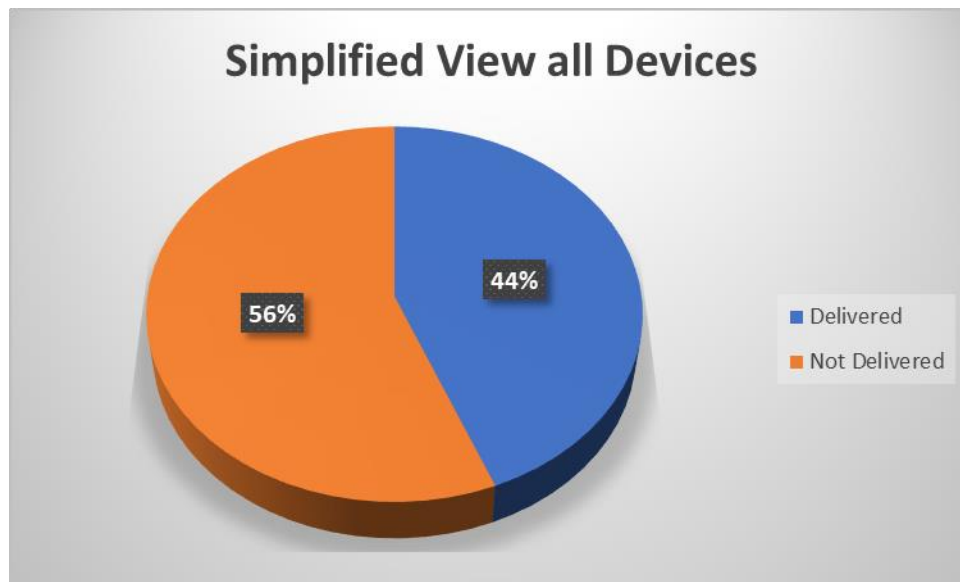
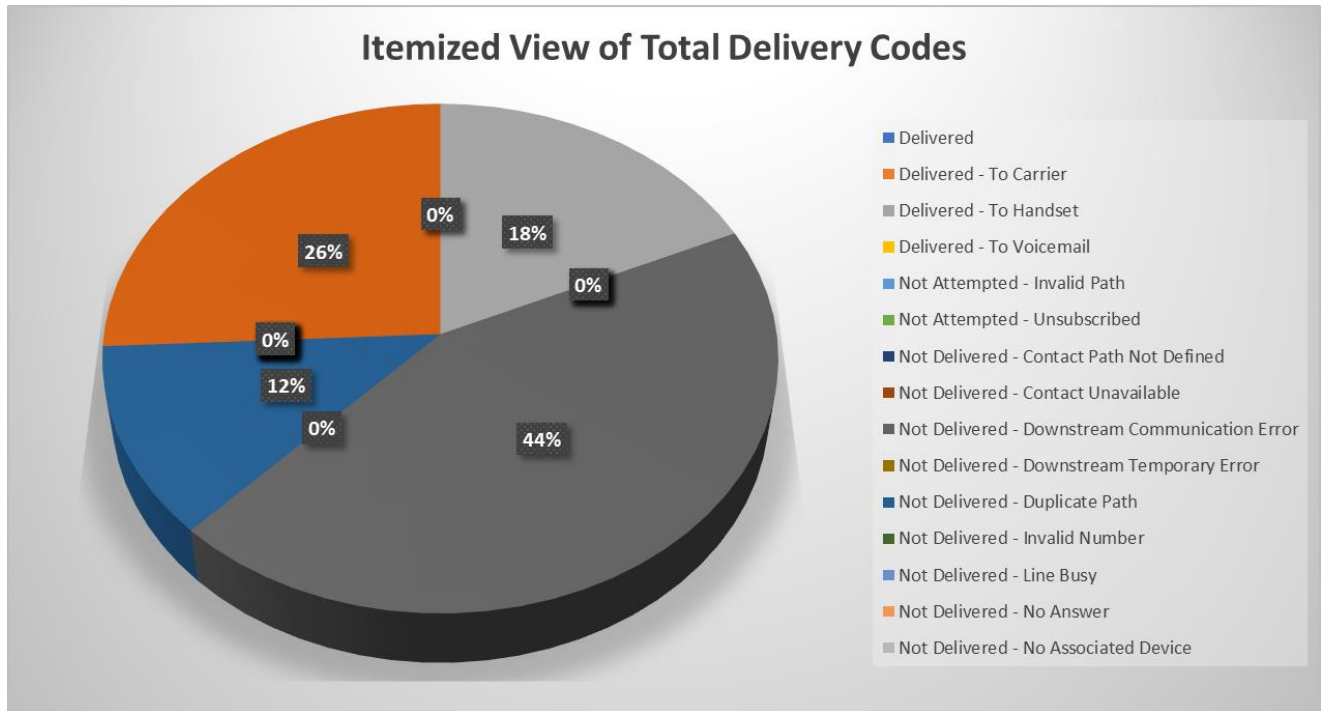


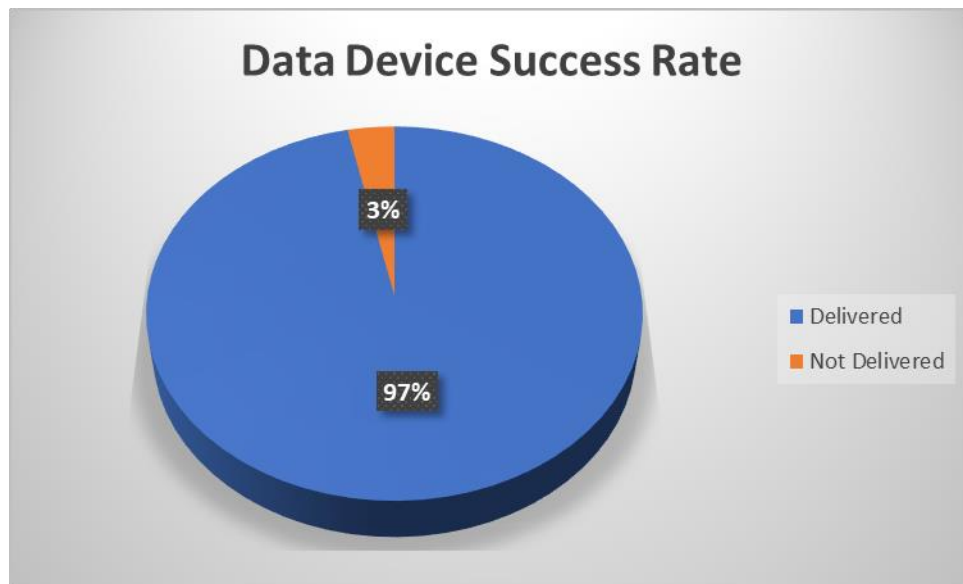
ZONE 31 MANDATORY



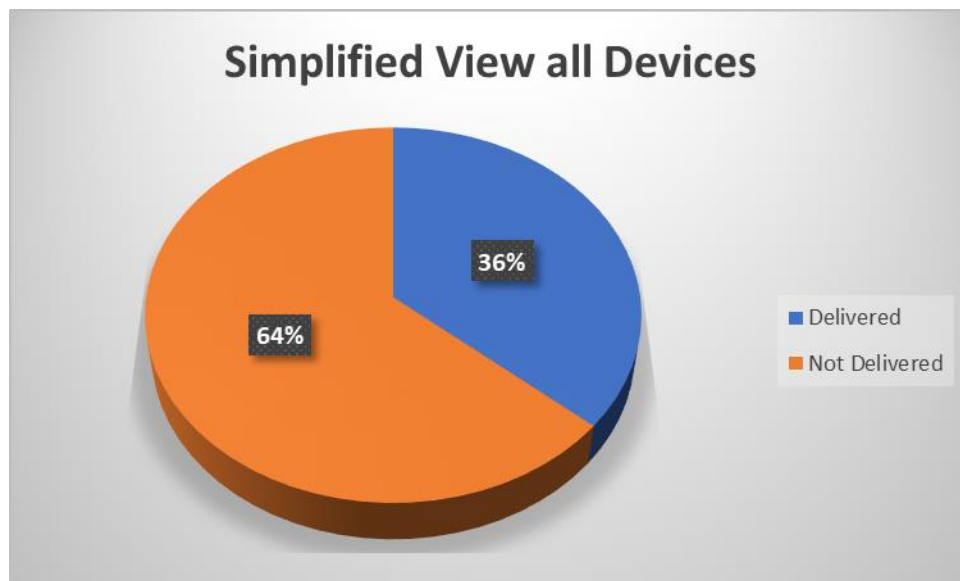
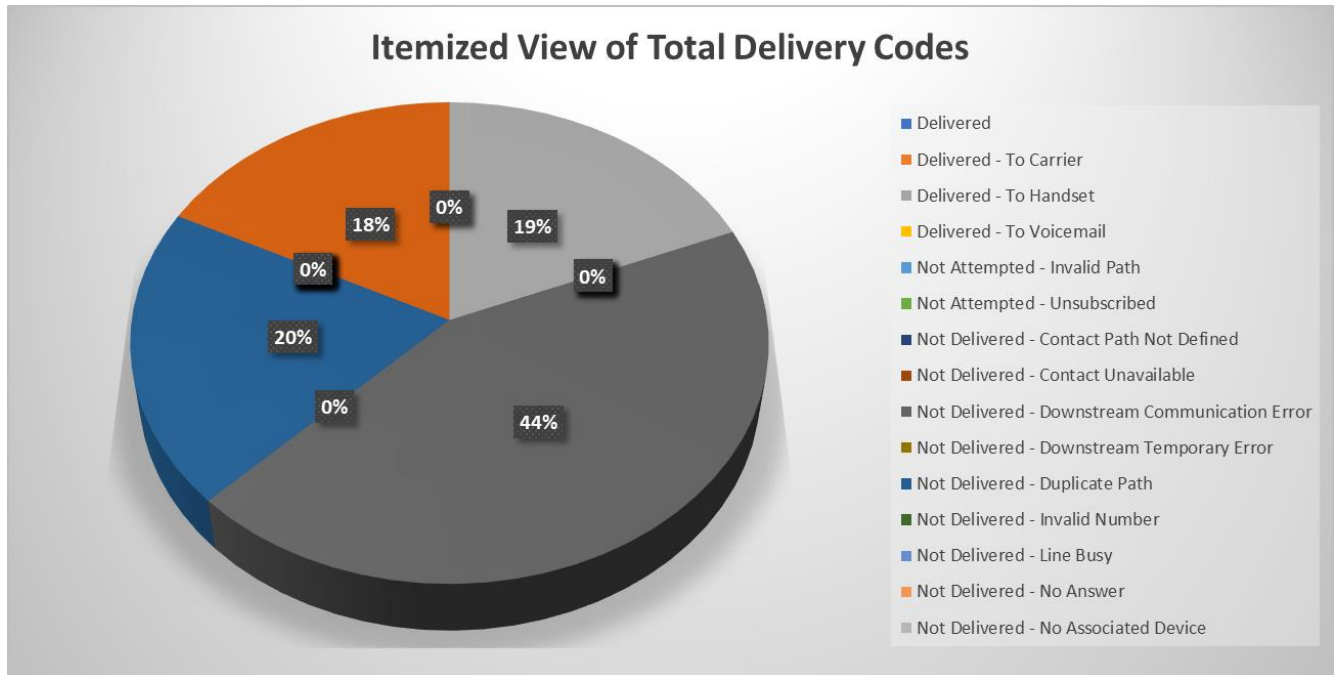


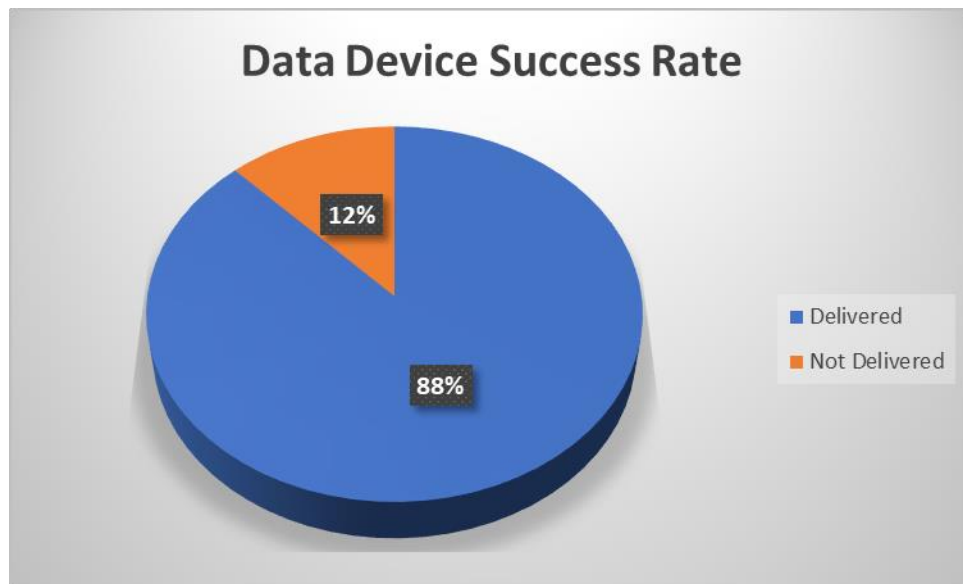
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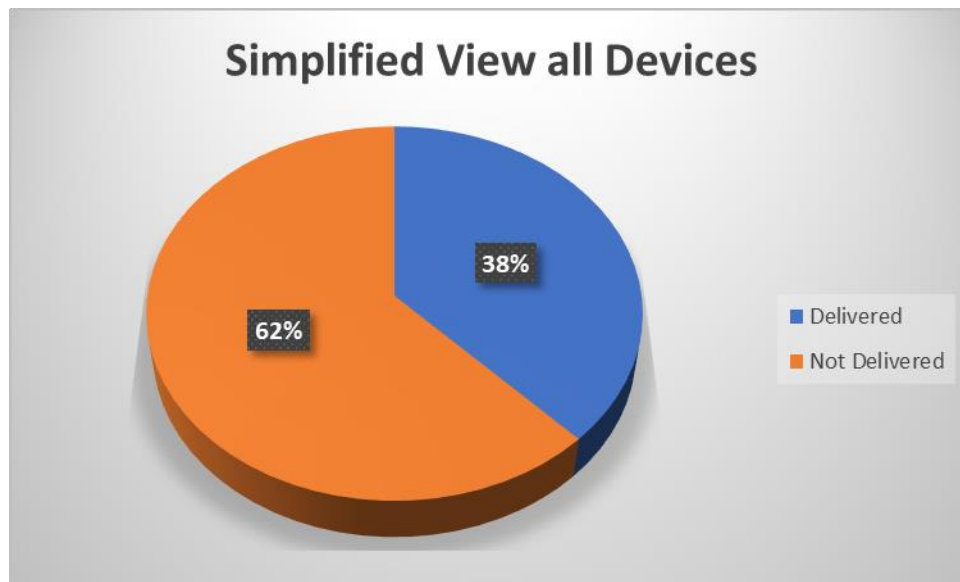
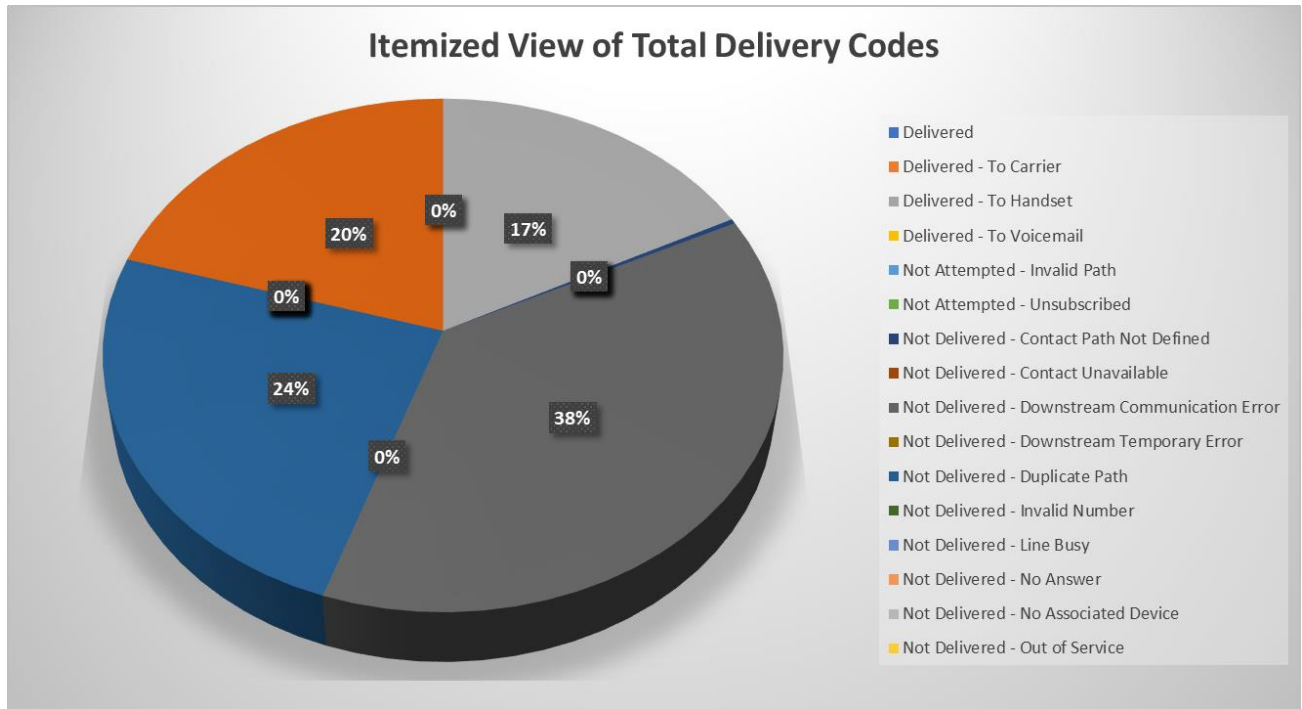


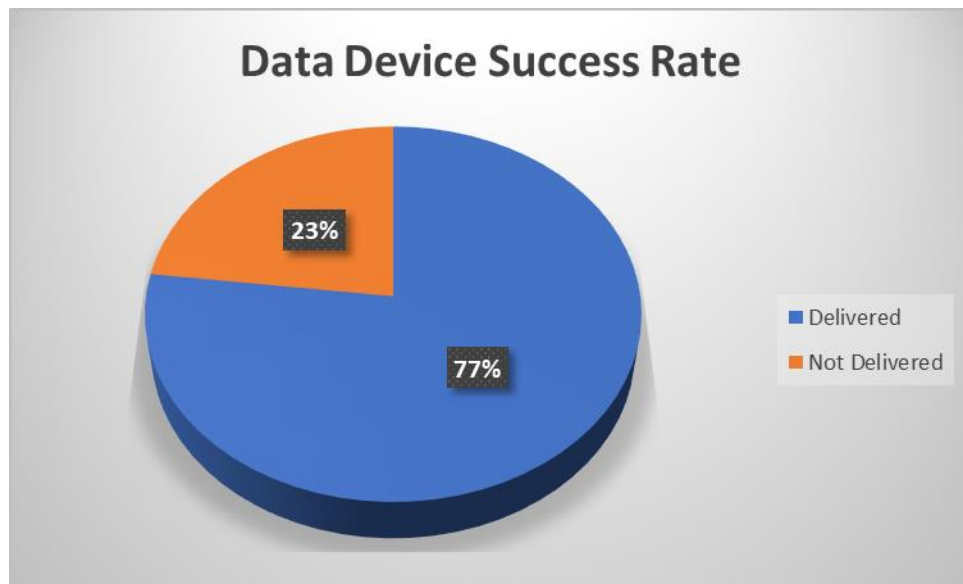
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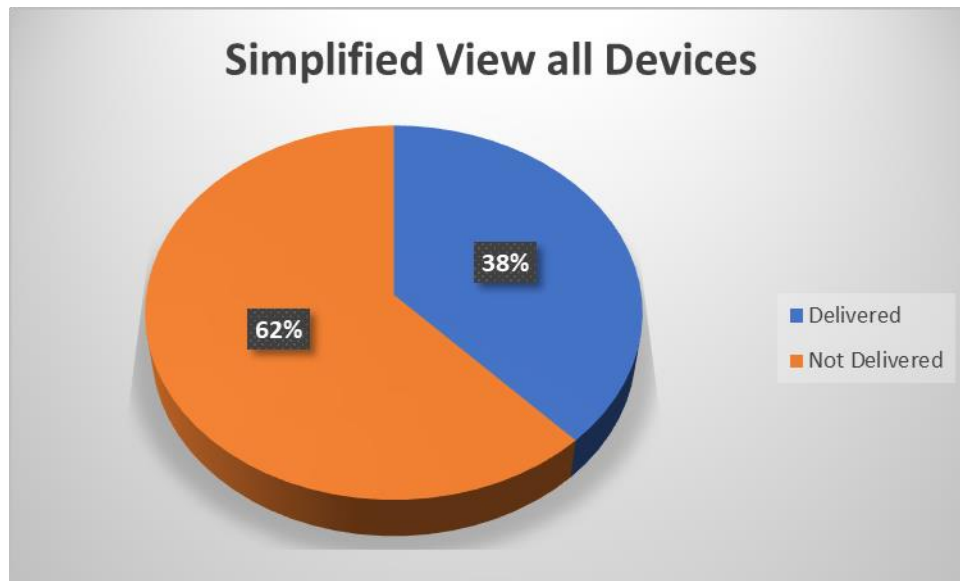
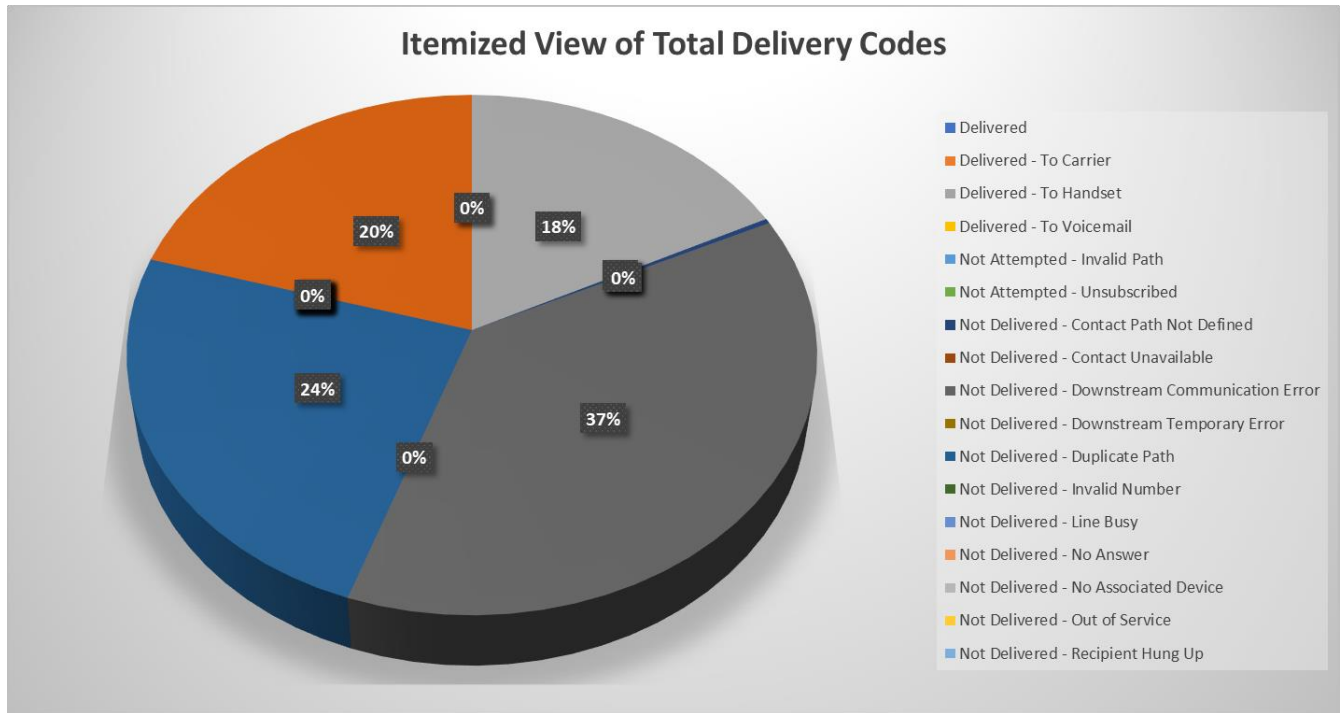


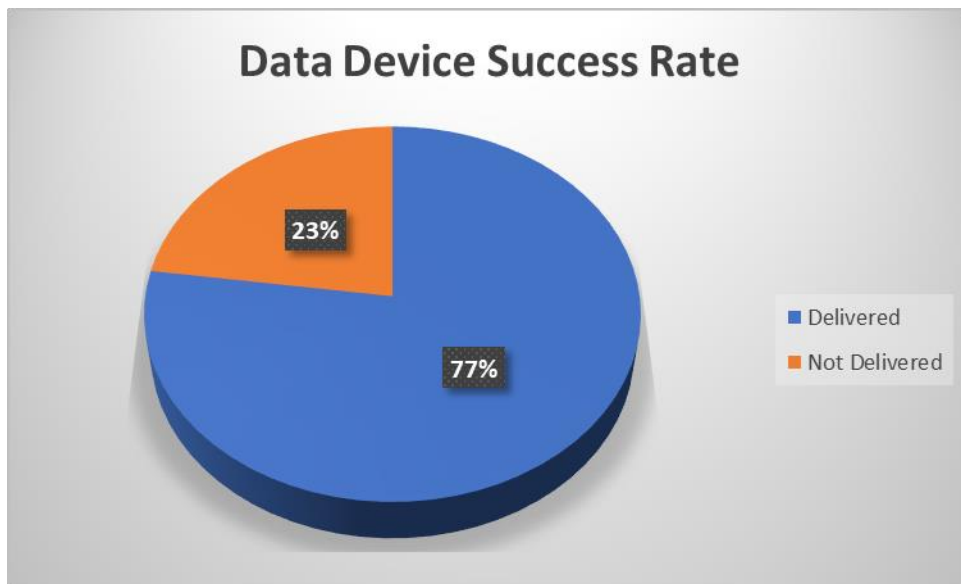
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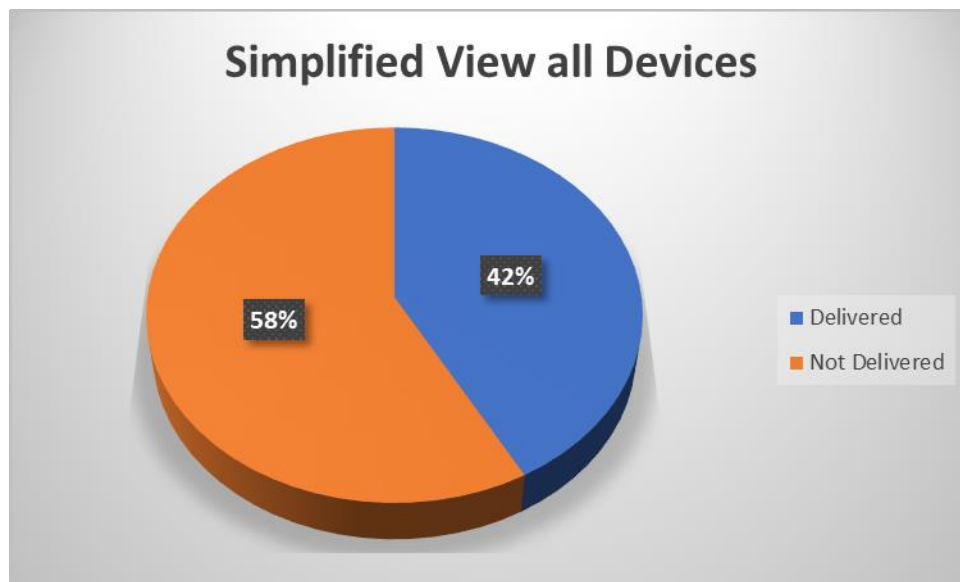
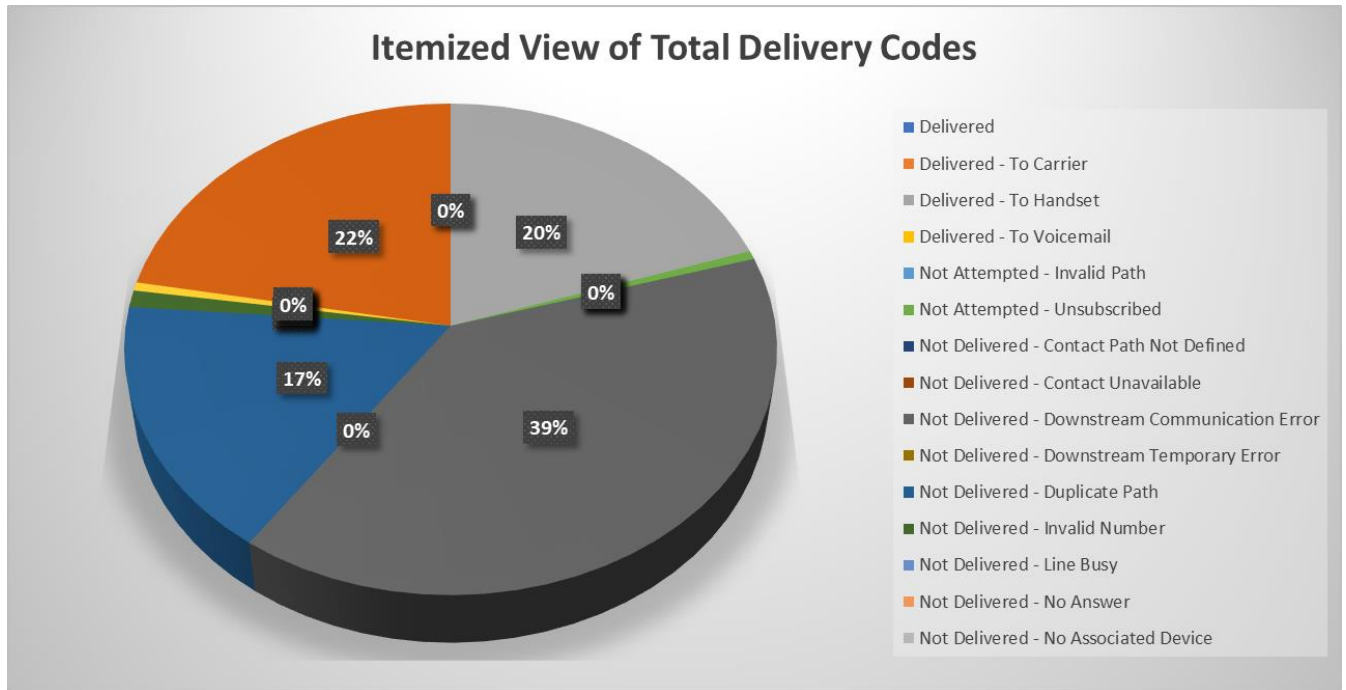


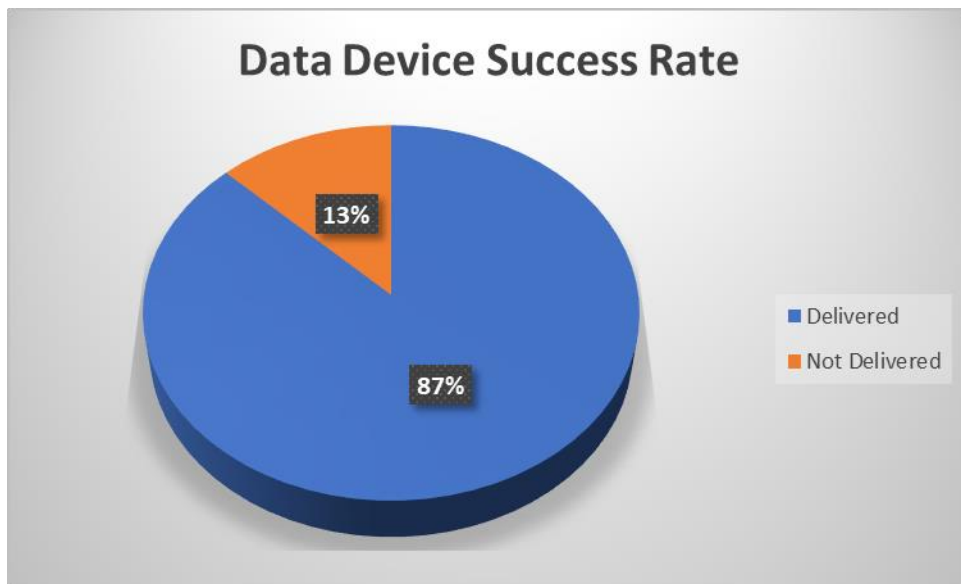
ZONE 58 MANDATORY ORDER





ZONE 60 ADVISORY ORDER





ZONE 60 MANDATORY ORDER

