

CITY OF AURORA FIBER OPTIC MASTER PLAN

Existing Conditions Report

May 2022

Prepared for:

City of Aurora
15151 E Alameda Parkway
Aurora, CO 80012

Prepared by:

Muller Engineering Company
777 South Wadsworth Boulevard
Suite 4-100
Lakewood, Colorado 80226
303.988.4939

Muller Project Number: 21-042.01



Table of Contents

1	INTRODUCTION	1
1.1	Purpose of Report	1
1.2	Study Area.....	1
1.3	Report Methodology & Organization	2
2	EXISTING COMMUNICATIONS SYSTEMS.....	4
2.1	Aurora Traffic	4
2.2	Aurora IT	10
2.3	Aurora Water.....	14
2.4	External stakeholder communication systems	17
3	ANALYSIS OF EXISTING AURORA COMMUNICATIONS SYSTEMS	22
3.1	Applications.....	22
3.2	Bandwidth.....	23
3.3	Compatibility.....	24
3.4	Growth	25
3.5	Redundancy	26
3.6	Reliability	27
3.7	Scalability.....	27
3.8	Security	28
3.9	Space.....	30
3.10	Documentation.....	30
3.11	Maintainability	31
3.12	Center-to-Center	32
4	COMMUNICATIONS NEEDS & REQUIREMENTS	32
4.1	Traffic.....	32
4.2	IT.....	32
4.3	Water	33
5	NEXT STEPS.....	33

List of Figures

FIGURE 1: STUDY AREA	3
FIGURE 2: AURORA TRAFFIC SIGNALS.....	6
FIGURE 3: EXISTING ITS INFRASTRUCTURE	8
FIGURE 4: EXISTING TRAFFIC COMMUNICATIONS SYSTEM	9
FIGURE 5: EXISTING FACILITIES	11
FIGURE 6: AURORA IT EXISTING COMMUNICATION SYSTEM	13
FIGURE 7: AURORA WATER CRITICAL FACILITIES	15

FIGURE 8: AURORA WATER RADIO TOWER BACKBONE SYSTEM..... 16
FIGURE 9: EXTERNAL STAKEHOLDER COMMUNICATION SYSTEM..... 20
FIGURE 10: RTD FACILITIES 21
FIGURE 11: NSF NETWORK CABINET 30

List of Tables

TABLE 1: SUMMARY OF TRAFFIC INFRASTRUCTURE 4
TABLE 2: SUMMARY OF AURORA IT INFRASTRUCTURE 10