



CITY COUNCIL AGENDA STATEMENT



October 6, 2020

File ID: 20-0365

TITLE

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CHULA VISTA ACCEPTING THE TELECOMMUNICATIONS MASTER PLAN

RECOMMENDED ACTION

Council adopt the resolution.

SUMMARY

The City engaged Magellan Advisors to work with City staff to create a Telecommunications Master Plan which provides a detailed roadmap to achieve the technical portions of the City's Smart Cities objectives.

ENVIRONMENTAL REVIEW

The proposed activity has been reviewed for compliance with the California Environmental Quality Act (CEQA) and it has been determined that the activity falls under a Statutory Exemption pursuant to Section 15262 (Feasibility and Planning Studies) of the State CEQA Guidelines. Thus, no further environmental review is necessary, at this time. Notwithstanding the foregoing, it has also been determined that the activity qualifies for an Exemption pursuant to Section 15061(b)(3) of the California Environmental Quality Act State Guidelines.

BOARD/COMMISSION/COMMITTEE RECOMMENDATION

Not applicable.

DISCUSSION

Background

As the City began working on our Smart Cities efforts, it was determined that a well-rounded technology based plan is necessary. The goal of the plan is to begin implementation of technologies and processes to deploy a system that provides the highest levels of service to our citizens. Several studies were completed including the Smart City Strategic Action Plan, Smart Bayfront, Traffic Signal Master Plan and Fiber studies. All of these reports pointed out that an in-depth study of the City's ability to provide the technological core to support these efforts needed to be done. Staff issued an RFP seeking firms qualified to take on this type of study. Magellan Advisors was awarded the bid to provide a detailed and comprehensive report which would

lay out a road map for City staff to address the following 14 functional/technical areas deemed to be critical to achieving our Smart City objectives:

- 1) Core Data Infrastructure/Fiber
- 2) Data Center Requirements
- 3) Telephony Requirements
- 4) Video Requirements (Remote Location Security)
- 5) Electronic Informational Signage/Kiosks
- 6) Sensor Networks
- 7) Wi-Fi/Municipal Wireless Systems
- 8) Operational and Maintenance Costs
- 9) Long Term Project Costs
- 10) Current Environment (Suitability for Smart Cities efforts)
- 11) Various Data Policies
- 12) Wireless Systems Security
- 13) Information Systems Governance
- 14) Valuation of City Assets

Magellan Advisors is a very well-respected consultancy firm which specializes in building transformational fiber, wireless and broadband networks. The project manager for this report is Jory Wolf who was previously the Chief Information Officer with the City of Santa Monica where he launched Santa Monica City Wi-Fi, which provides free internet services to the public through a network of 32 hot zones and wireless coverage in most major commercial and transit corridors throughout the city. He created Santa Monica City Net, a 100-gigabit broadband initiative to support an environment for local businesses to compete in the global economy with cutting edge network solutions.

Each of the categories reported on contain recommendations on how to achieve industry standards in order to be able to effectively achieve the City's Smart Cities goals. Staff has reviewed the final report and support the recommendations offered within.

The following are excerpts from the Executive Summary of the Telecommunications Master Plan report which covers the major action areas of the report.

TELECOMMUNICATION MASTER PLAN REPORT EXECUTIVE SUMMARY

The City of Chula Vista has embarked on an ambitious Smart Cities vision. The goals of the Smart Cities vision are to:

- Connect all City facilities, providing a secure, cost effective, redundant and flexible network infrastructure to meet current and future data, video and voice communications needs;
- Provide a network infrastructure to enable the City to control its telecommunications costs, implement smart city initiatives and encourage economic development;

- Provide a network infrastructure which enables applications and services, and facilitates innovation and economic development within the City, including the Bayfront, Millenia, and University & Innovation areas;
- Provide timely, accurate data to centralized locations from myriad sources including IoT devices, mobile field units (for Police, Fire, Public Works) and other infrastructure to maximize efficiency and enable timely, accurate business management decisions;
- Connect citizens to City services and provide access to data which will allow citizens to be more connected to their government. Further, the City envisions significantly reducing the “digital divide” by providing access to the internet and City digital services to underserved areas;
- Where practical, develop Public - Private partnerships to further the Smart Cities vision.

In 2018, the City retained Magellan Advisors (“Magellan”) to develop this Telecommunications Master Plan (“TMP”) to focus on the development of a fiber and telecommunications infrastructure to support the City’s Smart Cities vision. Along with a plan for network infrastructure for the City, Magellan provides advice and policies, organization assessment, and frameworks for the City to enable its Smart Cities vision.

Magellan reviewed several existing City reports which had been previously commissioned, including:

- 2017 Chula Vista Smart Bayfront, Energy Technologies Assessment – Black and Veatch
- 2017 Chula Vista Smart Bayfront, Communications and Smart Infrastructure – Black and Veatch
- 2018 Smart Cities Technology Analysis, Recommendations for Bayfront – Black and Veatch
- 2018 Baseline Network Assessment Report (IT) – NIC Partners
- 2017 Smart City Strategic Action Plan – (Maddafer)
- 2017 Traffic Signal Communications Master Plan
- 2016 Chula Vista Fiber Optic System Assessment – Black and Veatch

Magellan conducted a two-day on-site kickoff, coordinating through Information and Technology Services (ITS) Director Edward Chew. Many department heads were interviewed on current situation, needs and plans. Department heads from Economic Development, Law, Finance, Sustainability, Public Works, Traffic, and others participated.

Magellan also requested the City to provide many GIS data layers for analysis and to support possible fiber route planning which were provided by ITS and Traffic Division and uploaded to Magellan’s GISCloud instance for the City of Chula Vista.

Telecommunications Master Plan (TMP) Summary

In this Executive Summary, Magellan provides a synopsis of the findings and recommendations in the Telecommunications Master Plan (TMP).

Core Infrastructure and LAN/MAN Opportunities

This section details the efforts of the Information and Technology Services (“ITS”) and Traffic Control (“Traffic”) divisions on their planning initiatives to upgrade the Chula Vista networks and fiber networks. Traffic is already upgrading some traffic signals to connect to the Traffic Management Center (TMC) via fiber, and 24 signals are currently connected in this way. The section details the necessary attributes of a robust fiber network, defining scalability, performance, inter-operability, reliability, multi-purpose, security and operations traits, along with statements on required staff to support such a network. It outlines the several

benefits of having a dedicated fiber network, including improved operational and financial control, and reduced reliance on third-party operators.

The analysis then moves to design and phased implementation of a Citywide fiber network. The phased proposal is to construct three rings, first in the west and expanding eastward. The first ring is implemented in three phases: first, the fiber backbone ring, second, connecting traffic signals along the network via new fiber, and third, connecting City building sites to the fiber network for operations. The second ring connects to the first, and is itself implemented in two phases: first, the backbone ring, and then connecting traffic signals to new fiber. The third ring completes the proposed network, connecting all remaining traffic signals to the network.

Table 1-1 Network Construction Phases

Phase	Recommendation	Phase Scope, Description
1	Required	Backbone Ring 1, Connecting Data Centers and Aggregation Sites
2	Required	Traffic Network Connecting to Ring 1
3	Required	Laterals Connecting City Sites to Ring 1
4	Contingent	Backbone Ring 2 and Laterals to City Sites
5	Contingent	Traffic Network Connecting to Ring 2
6	Contingent	Backbone Ring 3 (Blue) and Remaining Traffic Network

Implementation of the second and third rings are contingent on availability of complete funding for all components of a specific phase.

Conceptually, the completed network schematic is as follows:

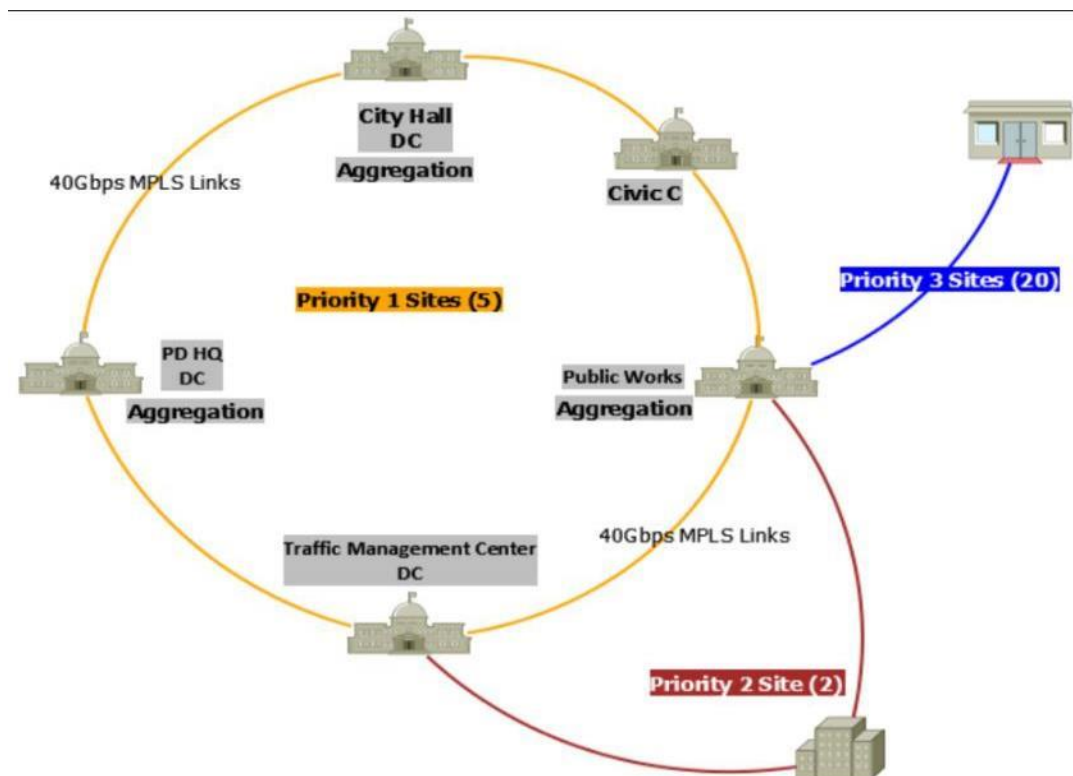


Figure 1-1 Chula Vista Conceptual Network Architecture (Three Rings)

The implementation of the network is phased, creating a series of rings, which permit communications traffic to have redundant paths back to City data centers.

The first ring, in the western part of the City, connects the City data centers with fiber along Main Street in the south, turning north along 4th Avenue, then east along E Street, before turning south along 2nd Avenue. At E H Street, the ring runs east before turning south again at E Hilltop Drive, heading east at E and L Street, crossing over the I-805 onto Telegraph Canyon Road before turning south onto Brandywine Avenue. before closing the loop back on Main Street. This ring connects the four Priority 1 sites in a loop, permitting traffic to flow in either direction to access any City data center. In the second and third Phases, the ring also connects 16 other City buildings and 21 traffic signals. This westside ring covers the more densely populated part of Chula Vista, bringing fiber connectivity to most City buildings and the possibility for dark fiber leasing to commercial providers and other entities.

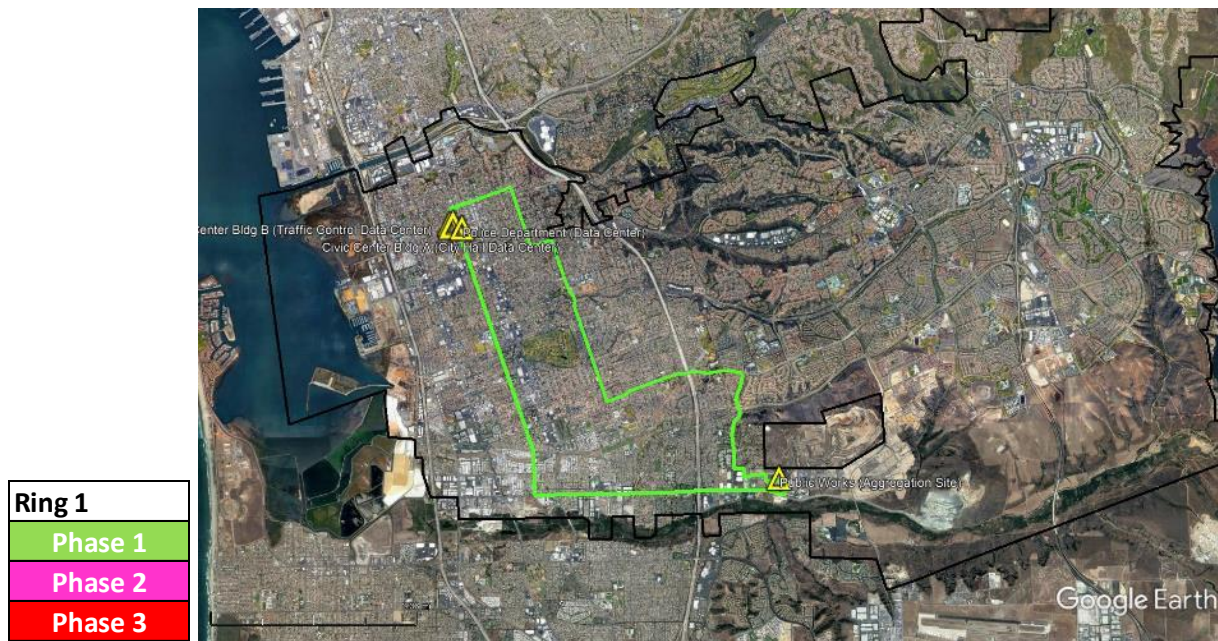


Figure 1-2 Ring 1 (Phases 1-3) Westside Ring

The second ring breaks off from the first ring at E H Street, heading east to Proctor Valley Road, turning south along Hunte Parkway until it turns west at Olympic Parkway, merging back onto E Palomar Street where it reconnects with the first ring at Brandywine. This ring connects the remaining planned 7 City buildings and 8 additional traffic signals.

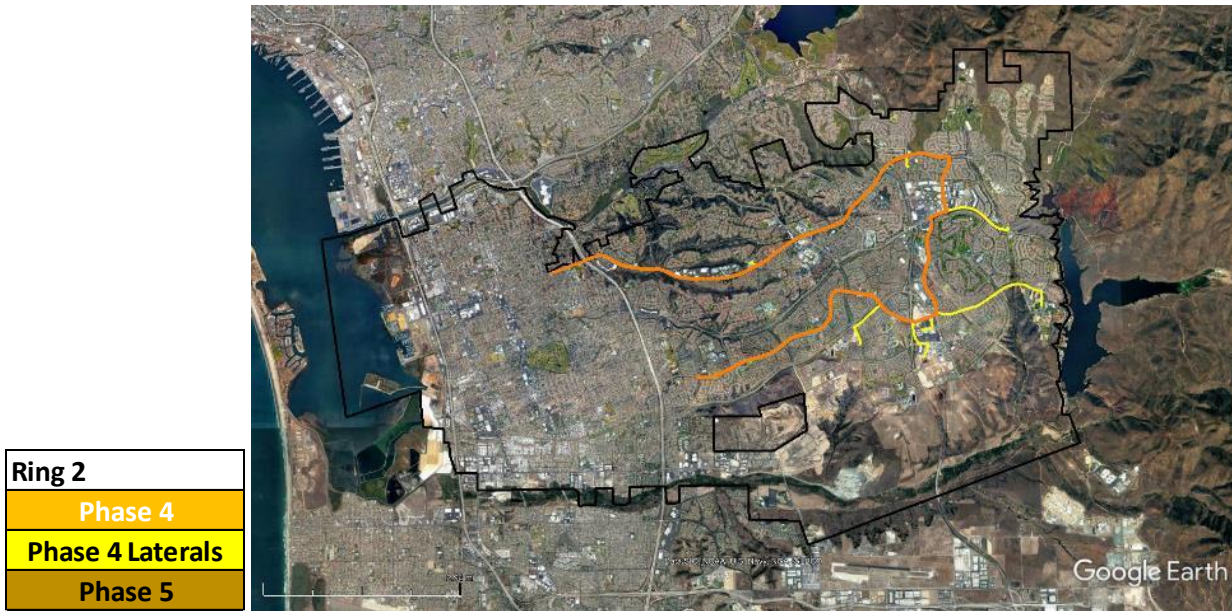


Figure 1-3 Ring 2 (Phases 4-5) Northeast Ring

The third ring in the far east of the City continues south along Hunte Parkway, extending south along 125, before heading west along the southern part of the City, where it reconnects with Main Street. This ring enables growth in the southeast part of the City, and connects 5 additional traffic signals.

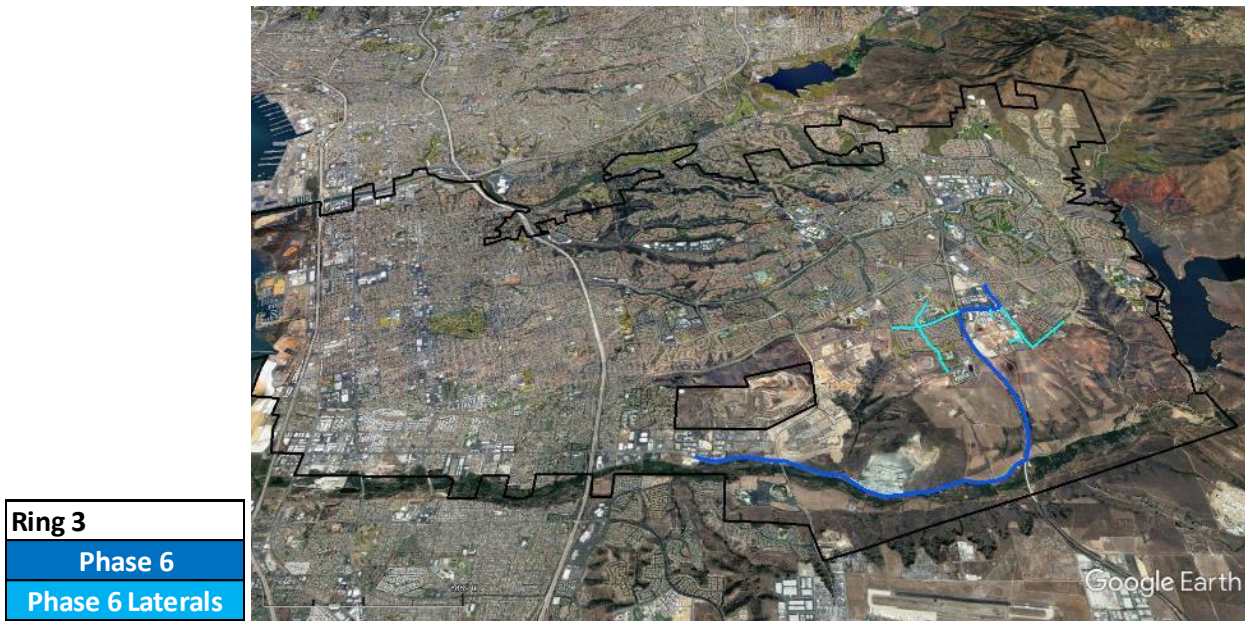


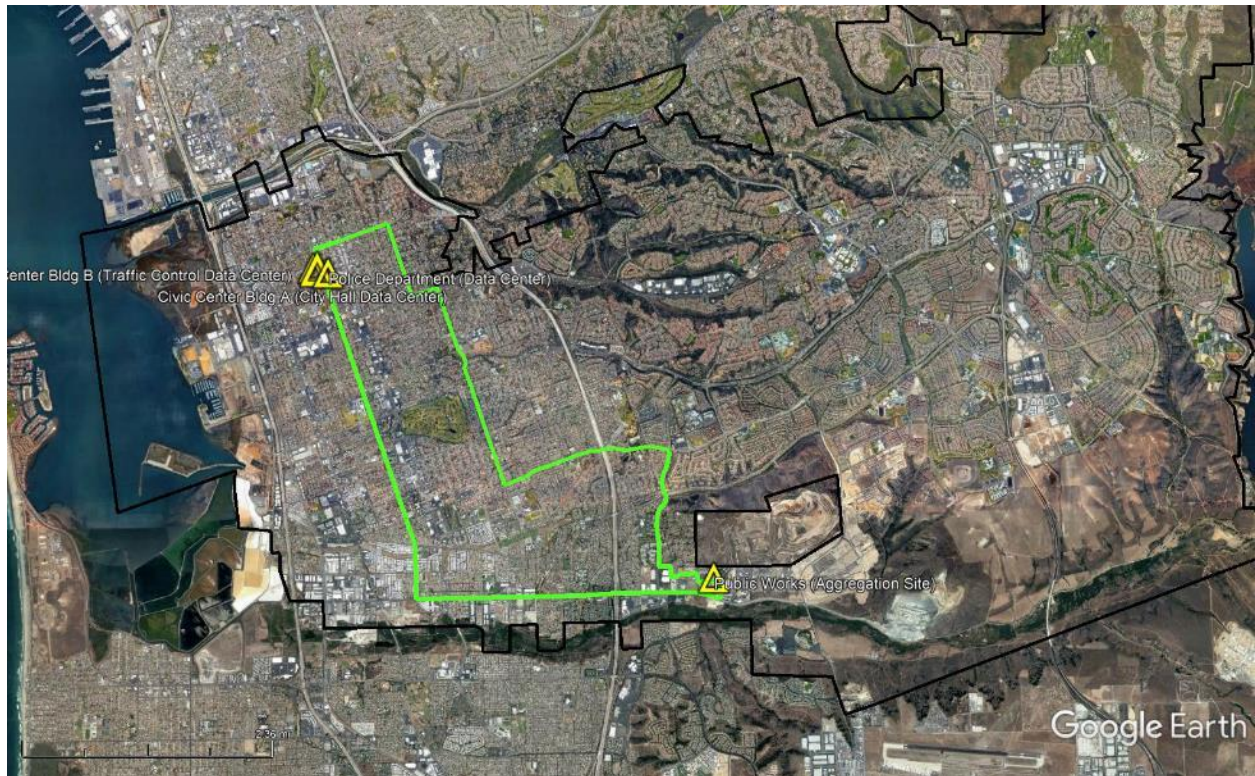
Figure 1-4 Ring 3 (Phase 6) Southeast Ring

Phase 1 creates a physical ring consisting of 288-count fiber diversely routed to connect City IT, Police Department headquarters, Traffic Management Center, and Public Works. This physical ring connects to core

switches at each site to provide both protected high-speed transport between the data centers and remote site aggregation for end user access to the applications and storage. In addition to remote City sites, the ring also aggregates the traffic control networks, surveillance systems, and future Smart City components. (See Appendix C for a complete list of named sites associated with each ring.)

Following is an example, details in the TMP include a map of the proposed routes along with summary metrics for the construction. Phase 1 is included here; the remaining five phases are in the body of the report.

Phase 1 includes 14.3 route miles of fiber consisting of the primary backbone fiber ring and connection of four sites, including City IT, Traffic Management Center, Police Headquarters, and Public Works. All four buildings are designated as priority 1 sites.



Phase 1

Figure 1-5 Phase 1 Route Map

Phase 2 follows the Traffic Signal Communications Master Plan (“TSCMP”) to construct fiber for the traffic signals networks in downtown Chula Vista. The traffic signals networks could be deployed in physical rings or daisy chained configurations, depending on available equipment budget and fiber topology. Each group of signal controllers terminates to the aggregation switches on the transport ring for connectivity to the primary Traffic Management Center.

Phase 3 constructs fiber to connect sixteen (16) of the twenty-seven (27) City sites, including Traffic Center and Civic Center B, using 24-count laterals from each site to the aggregation switches on the transport ring.

This would migrate the majority of City sites to City-owned fiber and allow the disconnection of monthly recurring leased services to those sites.

Phase 4 constructs a second physical fiber ring connecting sites and traffic signals networks in the northern half of the City. This ring would be used to aggregate City sites and traffic signals networks to the primary ring for termination into one or more of the aggregation sites. In addition, 24-count laterals would be constructed to the remaining seven remote City sites.

Phase 5 constructs the networks serving the northern traffic signals and terminates them to the aggregation sites on the primary ring for connectivity to the Traffic Management Center.

Phase 6 constructs a third physical ring connecting the southern half of the City, providing future fiber connectivity as growth occurs. The remaining traffic signals network points would also be transported by this ring to the aggregation sites for connectivity to the Traffic Management Center.

For the six phases, construction costs are almost directly proportional to the lengths of proposed fiber segments, based on Magellan’s design. The following table summarizes core and lateral distances by phase:

Table 1-2 Summary of Fiber Network Metrics, by Ring, by Phase

Ring	Phase	Core / Backbone		Laterals / Distribution		Core + Laterals	
		Linear feet	Linear miles	Linear feet	Linear miles	Linear feet	Linear miles
1	1	73,371	13.90	2,539	0.48	75,910	14.38
1	2		0.00	112,855	21.37	112,855	21.37
1	3		0.00	35,953	6.81	35,953	6.81
2	4	70,343	13.32	31,332	5.93	101,675	19.26
2	5		0.00	81,280	15.39	81,280	15.39
3	6	32,953	6.24	17,971	3.40	50,924	9.64
		176,667	33.46	281,930	53.40	458,597	86.86
		38.52%		61.48%			

Magellan provides this order of magnitude estimate of design, engineering, construction, project management, construction management, and engineering costs, along with a contingency, for the three rings and six phases. Total costs for the entire construction effort, including contingency, are estimated at \$20.03 million, as follows:

- Labor and Materials: \$16.51 million;
- Contingency on L&M: \$1.651 million (at 10%);
- Design and Engineering: \$573K;
- Construction Management” \$480K over three construction waves;
- Project Management: \$384K over three construction waves;
- Equipment and Electronics: \$435K, including 20% professional services for installation.

Table 1-3 Estimated Engineering, Construction, Management, and Equipment Costs

Ring	Phase(s)	Sites	Labor & Material	10% Contingency	Design and Engineering	Total Const, Des & Eng	Const Mgt	Project Mgt	Equipment *	Total
1 (Req)	1,2,3	20	7,916,462	791,646	238,073	8,946,181	180,000	144,000	283,010	9,553,191
2 (Cont)	4,5	7	6,657,756	665,776	228,248	7,551,779	180,000	144,000	87,080	7,962,859
3 (Cont)	6	0	1,932,937	193,294	106,925	2,233,156	120,000	96,000	65,310	2,514,466
Totals:			16,507,154	1,650,715	573,246	18,731,116	480,000	384,000	435,400	20,030,516
* = Includes professional services for installation (Req = Required; Cont = Contingent on Funding)										

Although construction of the three backbone rings must precede the remote site and traffic signals connecting to them, the six phases are operationally independent of each other. Each phase can be implemented over three to twelve months, depending on the City’s financing strategy. In addition, construction of the Phase 2, 3, and 5 remote site and traffic signal connections can be extended across multiple years if necessary, by maintaining the existing leased telecom services during the term of construction.

Magellan recommends the following as next steps for examining the proposed fiber network:

- Conduct Complete Engineering Design for Fiber Network.
- Construct Ring 1 (Phases 1-3) of Network – including all 5 Priority 1 sites and 20 City building sites
- Connect City Data Centers Along Primary Ring – including City Hall, at Civic Center Building A, and at Public Works Aggregation site.
- Centralize Network Management and Security – with ITS managing fiber network, while permitting Police Department and Traffic to manage their own user bases and applications running on the network.
- Integrate Traffic Control Networks to New Cisco Technical Infrastructure
- Collocate to Commercial Data Center for Direct Access to IP Service Providers

As currently planned, without commercialization of the network, there are no direct revenues to the City as a result of building this network; all the benefits would be improved service, operational cost reductions. Long-term, replacing commercial communications subscriptions currently under contract with AT&T and Cox would save approximately \$375,000 per year, resulting in a payback period of more than four decades. With an installed fiber network, there may be second order revenue opportunities through leasing available conduit to telecommunications companies, utilities, and other private entities. Private companies, especially telecommunications companies, may be interested in leasing dark fiber. There may also be partnership opportunities with community anchors and business parks.

Next, Magellan addresses how the proposed network will address the core seven design principles outlined by the City: Scalability, Performance, Interoperability, Multi-use, Reliability, Security, and Operations.

Finally, Magellan suggests that consideration be given to issuing an RFP for alternative fiber network solutions, instead of direct fiber network construction, as costs of construction may be too great.

Data Center

This section provides an assessment of whether the City's current data center offers adequate protection for basic services and can support additional capacity for supporting the implementation of the latest smart city technologies served by a multi-gigabit fiber and wireless network including, VoIP, interactive kiosks, HD cameras, smart streetlight controllers, intelligent transportation devices, sensors and many other IP enabled devices and applications. The Plan then enumerates a series of controls that should be implemented, with annual reviews recommended. Each control is named; provides a statement of the control's objective; a risk statement in the event the control is not implemented; and a value statement regarding the control. (Detailed templates are provided in Appendix B for each of the controls. The templates list a minimum set of data and City should define the values and processes around each.)

Recommended controls include the following:

- Environmental Controls
- Physical Security Controls
- Secure Workspace Program
- Secure Workspace Perimeter
- Secure Workspace Access Reporting
- Secure Workspace Compliance Inspections
- Visitor Management
- Business Resiliency
- Business Impact Analysis
- Risk Assessment
- Business Activity Level Recovery Planning
- Backup Media Creation and Restoration
- Disaster Recovery, Business Continuity Testing
- Business Insurance
- Infection Disease Planning

Video

This section provides an overview of video and its uses in cameras for the purposes of security monitoring, for traffic monitoring, and ultimately planning for 5G video attachments to streetlights. Included is a recommendation for a governance framework for federated operations with other entities.

Specific recommended next steps include:

- Develop phased implementation plans for new, upgraded cameras, led by ITS.
- Coordinate camera deployment with other technology upgrades.
- Identify network requirements for camera backhaul and signal aggregation points.
- Establish policies for aggregating, monitoring, retrieving, storing and sharing video content.
- Ensure network infrastructure provides direct, wired access to cameras.
- Reach out to stakeholders to establish federated video sharing agreements. Stakeholders may include County agencies located and operating within the City, Chula Vista schools, CalTrans and other mass transit entities, and large businesses.
 - Stakeholders may include neighboring cities of San Diego, National City, San Diego County, and San Diego Association of Governments (SANDAG), the regional planning entity.
- Develop systems for securely accessing video feeds and delivering video to remote users. Include chain of custody considerations.

- Develop storage, retention and archiving strategy and policy for all videos.

Signage and Kiosks

This section provides an overview of the purposes of signage and kiosks, which are essentially computer displays that inform citizens and visitors about activities, status, traffic and pedestrian detours, emergency situations, and other urgent or timely information. Some signage is interactive with the use of touchscreens or other means of collecting user input. Next steps include recommendations for analysis, to ensure appropriate use, decide on proper locations, etc.

Specific recommended next steps include:

- Plan for motorist-targeted displays in commercial districts and densely populated areas.
- Decide whether kiosks should additionally be used to deliver public Wi-Fi.
- Review funding for infrastructure that may be used to connect displays and kiosks.
- Determine variability, criticality and level of control for each class of displays and kiosks.
- Establish a comprehensive set of standards.

Sensor Networks

This section offers a brief primer on sensor technologies, and their uses. In the Plan, sensors are devices that convert energy (light, movement, pressure, etc.) to digital data on which decisions may be made or actions taken. Sensors can be as simple as automated door openers, to smart meters that measure utility flow (water, electricity), to more complex items such as traffic or pedestrian flow and parking availability. Next steps include more detailed specifications of priorities and service needs prior to detailed implementation planning.

Specific recommended next steps include:

- Determine monitoring requirements based on municipal goals and departmental activities and initiatives.
- Develop City policies for sensors, both for operation and for valid data collection and usage.
- Conceptualize full build out of sensor network and derive operational requirements.
- Prioritize build out based on strategic goals and imperatives.

Wi-Fi and Municipal Wireless Systems

This section merges two proposal tasks. In it, Magellan analyzes and evaluates municipal wireless infrastructure systems which are private and secure, and which can provide the basis for Citywide municipal Wi-Fi, if desired. Discussions of technology standards, the differences between Wi-Fi and mobile wireless and transitions to 5G technologies are included. There should be both secure, authenticated Wi-Fi for use by City employees, staff and contractors; public access Wi-Fi at City locations, for use by the visiting general public; and long-term, possibly Citywide municipal Wi-Fi. As of Dec 2019, the City manages 120-130 Wi-Fi access points.

Specific recommended next steps include:

- Identify objectives, scope and purposes of citywide wireless network covering all City government buildings. These could include consolidating the several Wi-Fi networks into a single, unified

network; providing greater coverage; resolving gaps in network coverage; supporting use of other devices, including tablets, 5G devices, digital signage, kiosks, sensors,; support for recreation centers and parks, event spaces, and temporary gathering spaces; providing ubiquitous Wi-Fi, etc.

- Examine and assess possible business models to determine sources of funds for capital investment and support of ongoing operation. This could include several options including: public ownership and operation, public ownership with contracted operation, public-private partnerships, or hybrid models combining traits of multiple options. Risk assessment should be included, assessing financial, operational, and business interruption risks.
- Beyond public Wi-Fi, analyze how Wi-Fi might be used for enhanced public safety applications, transit and transportation applications, field access for code enforcement and inspections, congestion management, etc.

Operations and Maintenance Costs

This section focuses on the ITS department, its current project lists, and absolute minimal additional staffing required to enable the ITS organization to provide support for Smart Cities initiatives. As of 2019, ITS had thirteen (13) staff under the leadership of IT Director Edward Chew. In addition, three (3) staff are detailed to Police Department with a dotted-line reporting responsibility back to Mr. Chew, to ensure consistent direction of infrastructure that is utilized throughout the City.

INFORMATION AND TECHNOLOGY SERVICES

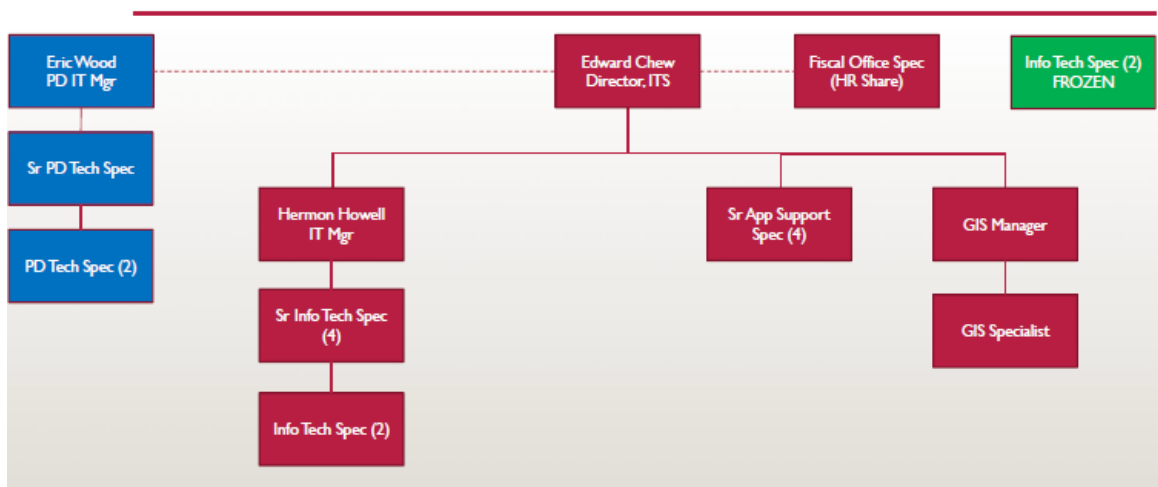


Figure 1-6 Information and Technology Services Organizational Chart

As of November 2019, there are at least twenty (20) significant projects on the ITS projects list, many of which focus on operational improvements and security, and not strategic initiatives. The projects list is included in this section.

Magellan recognizes that budgets are limited in Chula Vista. Magellan also realizes there are many years of work in the above project list. However, Magellan recommends the addition of one (1) Senior Engineer and one (1) Senior IT Specialist to work on project backlog and support design of Smart City initiatives. Project Management improvements are necessary, to increase project capacity, standardize project execution, and

provide consistent status reporting to senior management; Magellan recommends one (1) Project Manager. Finally, with cyber-security concerns ever-present and increasing, Magellan recommends creation of a Chief Information Security Officer (“CISO”) role.

Current Environment (Suitability for Smart Cities)

This section outlines the minimum City requirements for supporting Smart Cities initiatives. The four identified necessities are:

- Citywide fiber network – Must be robust enough to provide backhaul for 5G and other smart devices strategically placed throughout the City. The fiber network may be newly constructed or leased from commercial providers or other partners.
- Policies to support data and usage – With large amounts of data being captured and published to support Smart City initiatives, the policies required for governing data, use and protection of data must be defined and approved.
- Appropriate pricing – City has many valuable assets, including streetlights and other vertical assets. Consistent, legitimate and valid pricing must be developed to support timely responses to licensing applications, and to monetize City assets where possible.
- Necessary additional staffing – ITS staffing today is insufficient to support its backlog of projects. Significant, or even several, Smart City initiatives cannot be reliably or timely supported with current staffing and budget. Staffing augmentation contracts and contractors may provide specific technical skills but will require additional funding.

Magellan also included a SWOT (Strengths, Weaknesses, Opportunities, Threats) Analysis of the ITS organization. (ITS is the primary supplier of internal technology services within the City.)

Data Policies

This section identifies the considerations for five data policies: Data Privacy; Open Data; Data Ownership; Smart Cities Readiness; and Dig Once. These are prototype policies and need to be reviewed internally with key City departments, to flesh out details. Once in finished form (not in scope to this report), these should proceed to reviews and approvals by City Management and, if necessary, City Council. Each policy should be finalized and standalone. (Some identical terms are defined in several policy examples.)

- Data Privacy Policy - provides a framework for protecting personal information collected by the City and sets the boundaries for appropriate use. In finalizing the policy, many classes of data must be defined and each may have its own limits.
- Open Data Policy - provides a framework for defining how specific data sets might be made available to the public via a portal, a website, etc. both protecting the City while not compromising the identity or rights of the provider or subject of the data.
- Data Ownership Policy - provides a framework for proper use, storage and management of data across all City agencies and departments. The Policy should outline expectation of data access, availability, and management to ensure cross functional decision making while preserving data integrity and accountability.
- Smart Cities Readiness Policy - provides the framework for City to set policy to enable the implementation and support of Smart Cities initiatives. The final policy should include the desired outcomes, limits on possible partnerships, and set limits and permissions on the use of data required to support the initiative.
- Dig Once Policy - frames the policy over minimizing the cost, disruption, and frequency of placement of road, utility, and other infrastructure. The final policy should include considerations of joint trenching, which encourages communications between and among City agencies and departments,

and with external parties such as utilities, to ensure, wherever possible, that conduit, and possibly fiber, are placed whenever infrastructure is opened for work. This policy may include guidance on moratoria, and cite valid exceptions, such as for emergency repair. (A complete Dig Once policy is included as Appendix A.)

Valuation of Key Assets

This section provides a valuation analysis for 5G wireless pole attachments which may be affixed to streetlights and other City assets. It discusses FCC's Wireless Order, 18-133, which is currently in effect but under appeal in Ninth Circuit Court. The analysis discusses the timeline shot-clock for reviews and approvals of permit applications which might be submitted by wireless carriers, the framework for aesthetic guidelines which City may require, and the fees cities may reasonably charge for permits and annual attachment fees. FCC's safe harbor annual fee of \$270 per pole per year is discussed.

Conclusion

The City of Chula Vista is actively planning its long-term Smart Cities vision. This Telecommunications Master Plan, with its primary focus on creation of a citywide fiber network and recommendations for complementary technologies, policies and processes, helps position the City to move forward to provide new services, technologies, and applications. These will support faster growth and economic development, permitting Chula Vista to continue its growth and increase prosperity.

There are many sections of the report where City staff has already begun/completed work as outlined in the full Telecommunications Master Plan. The Information and Technology Services Department has completed a full replacement of the City's core network. Staff from throughout the City have begun working on various data governance and use policies in order to provide straightforward data policies to protect sensitive data, while providing important data for citizens/customers of the City.

As noted above in the excerpts, there are several positions recommended in the Information and Technology Services Department in order to provide the in-house capabilities to carry out the recommendations. Staff will provide formal requests for positions as part of the annual budget for consideration.

As cyber security remains a very real and important issue for the City, the report recommends a full-time Chief Information Security Officer (CISO) to oversee and develop a detailed cyber-security plan for the City including employee training, testing of the network and data center for vulnerabilities, disaster recovery planning (including cyber attacks) and general security initiatives around various IT projects.

The report also recommends a Senior Network Engineer. The Sr. Network Engineer would provide full-time oversight of the City's new, and highly complex, network. This is important as we expand our network to include remote sensors throughout the City (such as irrigation, traffic control equipment, etc). This position would provide high level expertise to address these issues as well as security on the network. This position would work closely with the CISO in these efforts.

Two more positions are also recommended: One Sr. Information and Technology Specialist and a Project Manager. The Sr. Info Tech Specialist would provide much needed assistance with working with departments on various technology projects. With the current backlog of projects, this position would offer immediate

relief to address the growing list of technology initiatives. The Project Manager would provide coordination between all of the IT and Departmental staff working on specific projects. Highly functioning Project Managers save time and money on projects by providing skillful coordination of all the parties involved in a project (staff, consultants, vendors, etc.).

The final report is attached with this staff report for review.

DECISION-MAKER CONFLICT

Ministerial Action

Staff has determined that the action contemplated by this item is ministerial, secretarial, manual, or clerical in nature and, as such, does not require the City Council members to make or participate in making a governmental decision, pursuant to California Code of Regulations Title 2, section 18704(d)(1). Consequently, this item does not present a conflict of interest under the Political Reform Act (Cal. Gov't Code § 87100, et seq.).

Staff is not independently aware, and has not been informed by any City Council member, of any other fact that may constitute a basis for a decision-maker conflict of interest in this matter.

CURRENT-YEAR FISCAL IMPACT

There is no current fiscal year impact by accepting this report. The Telecommunications Master Plan will be used to identify potential future budgetary requests which may be considered as part of the annual budget process.

ONGOING FISCAL IMPACT

Accepting this report does not create a financial obligation to the City. Any fiscal impacts would depend on which portions of the Telecommunications Master Plan are implemented. The Telecommunications Master Plan will be used to identify potential future budgetary requests which may be considered as part of the annual budget process.

The operational and maintenance costs are estimated at upwards of \$600,000 per year for the internal staff recommendations and does not contemplate third party vendors to provide maintenance of the fiber networks as proposed. Staff is currently examining various funding strategies for these positions to be considered as part of the annual budget.

ATTACHMENTS

- 1) Telecommunications Master Plan

Staff Contact: Edward Chew, Director of Information and Technology Services