

Memorandum



CITY OF DALLAS

DATE April 28, 2023

TO Honorable Mayor and Members of the City Council

SUBJECT **Follow-Up Responses to Questions from March 20, 2023, TRNI Council Committee Meeting – Public Works Smart City Initiatives Briefing**

Background

On March 20, 2023, the Department of Public Works briefed the Transportation and Infrastructure Committee (TRNI) on various completed and ongoing smart city initiatives. During the March 2023 briefing, some questions were asked by the TRNI Committee that required additional staff research and follow-up. As staff has completed the research of the outstanding TRNI Committee questions, the purpose of this memorandum is to provide the requested follow-up.

Follow-Up Information from TRNI Committee Questions and Requested Information

- 1. Provide performance metrics (number of connections made and usage hours) for each completed Wi-Fi project:** (Response) Please see attachment.
- 2. What are the ongoing hardware operational & maintenance (O&M) costs of the various networks?**

(Response) The table below describes the annual recurring O&M costs of circuits, bandwidth, utilization, and support:

PROJECTS	O & M
10 -Wireless Arra/Neo Networks/10 Streetlight (CD 3, 4, 5, 6, 7, & 8)	\$49,743.20
10 - Cisco/Digital Divide (CD 1, 3, 4, 5, 6, & 8)	\$120,000.00
Granite (Red Cloud/FS5, Richmond/FS15, Tietze Aquatic)	\$98,640.00
Total Annual O&M	\$268,383.20

- 3. Singing Hills Recreation Center - Provide the exact pole location connected by fiber to the recreation center that supports residential Wi-Fi to the community, as residents have reported connectivity issues. Homes could be up to 1200' from the broadband network pole. What is the Wi-Fi range?**

(Response) Wi-Fi range is up to 200 ft from access point, the attached document depicts locations of access points as well as estimated vs. actual coverage objectives and pole locations. Wi-Fi range beyond the City facility cannot be guaranteed and is an estimate based upon the capability of the Wireless Access Point devices installed and impacted by several factors that include weather, topography, obstructions, and construction of buildings, to name a few. Availability of data is dependent upon the configuration of the network devices respectively.

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4. In the next five years, what is the projected demand for Electric Vehicle Charging Stations in Dallas?

(Response) The Texas Department of Transportation (TxDOT) projected electric vehicle usage of approximately 1M vehicles in Texas by 2030; this estimate was based on ERCOT's long-term system assessment scenario to evaluate grid capacity and planning for long range demands of energy use, but clearly maintains that it was merely a possible scenario, not a projection. However, a North Central Texas Council of Governments (NCTCOG) representative stated that the estimation was too low causing electric vehicle infrastructure demand projections to no longer be accurate; this region alone has already reached or exceeded predicted usage and is approximately 7 years ahead of the unofficial model used to forecast demand. NCTCOG is working to investigate if a regional goal should be set and investigate usage ratios to determine where groups would recharge vehicles (homes or public-facing stations).

As this memorandum has provided follow-up from questions asked during Public Works Smart City Initiatives briefing presented to the TRNI Committee on March 20, 2023, should there be any further questions, please contact Ali Hatefi, P.E., Director of Public Works, at alireza.hatefi@dallas.gov.



Robert M. Perez, Ph.D.
Assistant City Manager

Attachment

c: T. C. Broadnax, City Manager
Tammy Palomino, Interim City Attorney
Mark Swann, City Auditor
Biliera Johnson, City Secretary
Preston Robinson, Administrative Judge
Kimberly Bizer Tolbert, Deputy City Manager
Jon Fortune, Deputy City Manager

Majed A. Al-Ghafry, Assistant City Manager
M. Elizabeth (Liz) Cedillo-Pereira, Assistant City Manager
Carl Simpson, Assistant City Manager
Jack Ireland, Chief Financial Officer
Genesis D. Gavino, Chief of Staff to the City Manager
Directors and Assistant Directors

TRNI - SMART CITY INITIATIVES BRIEFING FOLLOW-UP RESPONSES

Question 1:

PROJECT	DISTRICT(S)	WI-FI RANGE BEYOND CITY FACILITY	NUMBER OF USERS (CONNECTIONS MADE)	USAGE HOURS
Fiber installed in Storm Sewer: City Hall to Canton St. Svc. Ctr	2	200 ft	This is direct fiber-replaced cradle point for transportation, no Wi-Fi	N/A
Wireless Broadband Networks	1,3,4,5,6,8	200 ft	10 Cisco Digital Divide Sites Statistics Visitors: 1,224 (February '23) Number of Visitors: 3,205 (from Jan 1, 2022 - December 31, 2022) Repeat Visits: 3,750 (61%) New Visits: 2,300 (39%) Dwell Time: 1.45 Hours per visit Investigating bandwidth up/down	1.45 p/h per user on average
Ten Streetlight Wi-Fi projects	3,4,5,6,7,8	200 ft	10 NEO Network Digital Divide Site Statistics Visitors: 185 avg per cluster Number of Visitors: 2,219 (Last 12 months) 2.4GHz = 27.2 Mbps Down / 5.4 Mbps Up 30 Mbps Down / 7 Mbps Up 5.0GHz = 118.4 Mbps Down / 38.7 Mbps Up 125 Mbps Down / 40 Mbps Up	Portal does not include dwell time. ITS has reached out to Neo to get the information and requesting a monthly report moving forward or add the info to portal, awaiting reply. Contract still pending
Four Smart Light Poles (Lake Cliff Park/OCMC)	1	200 ft	Average of 416 users per month	10 min per user on average
Red Cloud Neighborhood	5	200 ft	Not yet operational	N/A
Richmond/Tietze Park	14	200 ft	*Traffic Signal Connections Only * Wi-Fi at intersections	N/A
Vickery Park Branch Library Electric Vehicle Charging Station/Small Cell Combo Unit	13	200 ft	Not yet installed	N/A

Question 3: Singing Hills Recreation Center

Singing Hills



Neo Networks Project Area		Circuit Installed	Spectrum Install
Singing Hills		CradlePoint	In Design
Council Member		Council District	
Tennell Atkins		8	
Original Coverage Objective		Estimated Homes Covered	
Gillarel Springs from Old Ox to Cul-de-Sac		21	
Expanded Coverage Objective		Actual Homes Covered	
Interlude Dr., South to Rondo Dr., Troyglen Dr., East to Old Ox Rd.		154	
% Increase in Homes Covered		Delta	
733.3%		133	
Host Site Type	ClearWorld Poles	CommScope Poles	40' Wood Poles
Rooftop	7		
Host Site Active	Remote Site Count	Total Sites Active	Technology
1	7	8	ARRA Public Wi Fi 5 GHz & 2.4 GHz