



## STUDY SESSION MEMORANDUM

**TO:** Mayor and Members of City Council

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**DATE:** March 13, 2025

**SUBJECT:** Study Session for March 13, 2025  
Xcel Energy Partnership Update

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### **EXECUTIVE SUMMARY**

The purpose of this study session is to provide council with an update on the progress made through the first five years of the city's partnership with Xcel Energy (Xcel) and to seek guidance on priorities that should inform the next five years of partnership efforts. City staff will also be joined by Xcel representatives to update council and the community on substantial investments that they plan in the areas of wildfire mitigation, modernization of the distribution system and clean electricity generation.

The city's partnership and Franchise Agreement with Xcel became effective on January 1, 2021. Since that time, Xcel and the city have worked collaboratively to advance projects and initiatives that accelerate progress towards the community's energy and greenhouse gas (GHG) reduction targets:

- Reduce emissions by 70% by 2030 (against a 2018 baseline).
- Become a net-zero city by 2035.
- Become a carbon positive city by 2040.

## **DEFINITIONS**

### **Net-Zero Emissions**

As close to zero carbon emissions as possible. Any remaining emissions sources can be sequestered naturally through the biosphere.

### **Carbon Positive**

Above and beyond net-zero emissions. A carbon positive community takes in, or sequesters, more carbon than it emits.

Efforts have also focused on improving the reliability and resilience of utility infrastructure and advancing equity.

Finally, 2025 marks the fifth year of the partnership. As built into the franchise, council and the community have the opportunity to affirmatively decide whether to continue in partnership with Xcel. Staff seek guidance on any additional analysis or information council needs to inform that decision.

### **Questions for Council**

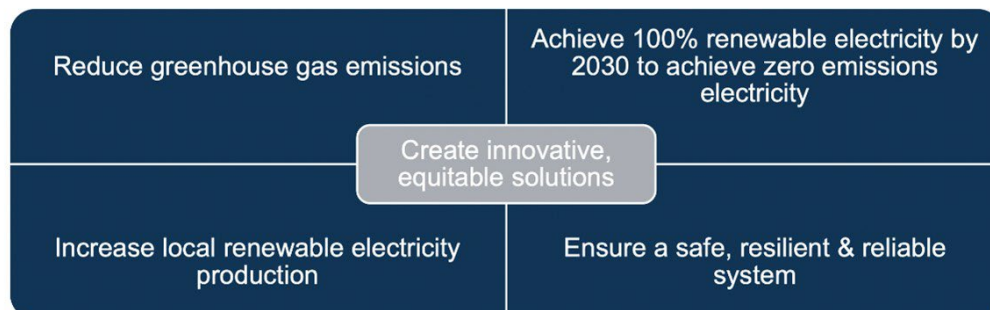
1. Are there areas of focus that council would like to see receive greater priority within the Xcel partnership work plan for the next five years?
2. Given 2025 marks the first five-year anniversary term, is there any additional information or analysis council needs from staff or Xcel to inform an affirmative decision to continue with the franchise?

## **BACKGROUND**

In November 2020, voters paused the community's municipalization efforts and approved a new franchise with Xcel. By passing the [franchise agreement, voters also approved an Energy Partnership Agreement \(Agreement\)](#) that serves as a guide for the partnership efforts. The Agreement laid out a broad set of priorities and areas of focus intended to guide the city and Xcel's efforts over the 20-year term of the franchise. The overarching goals are to:

- Achieve 100% Carbon-Free Electricity - This means that all electricity would come from clean, fossil fuel-free energy sources, every hour of every day.
- Reduce Emissions - Fossil fuel use to heat space and water in buildings and to power vehicles are major sources of greenhouse gases and other pollutants. The partnership will help replace fossil-fuel-powered systems with clean, efficient and affordable electric solutions.
- Increase Local Generation of Renewable Electricity - Half of Boulder's clean energy would be produced close to where it's used by 2050.
- Ensure a Safe, Resilient and Reliable Energy System - This includes replacing aging or inadequate infrastructure to make sure our energy system can withstand extreme weather events brought on by climate change.

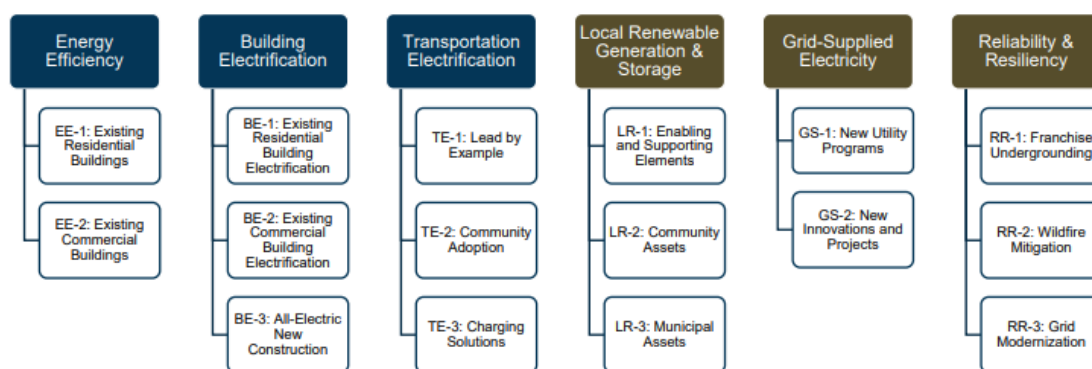
- Create Innovative and Equitable Solutions for a Diverse Community - Identify projects, programs and initiatives that ensure all community members have equitable access to affordable energy. The partnership will also create opportunities for underrepresented populations to participate in, be heard and experience benefits.



**Figure 1 – Overarching Goals of the Energy Partnership**

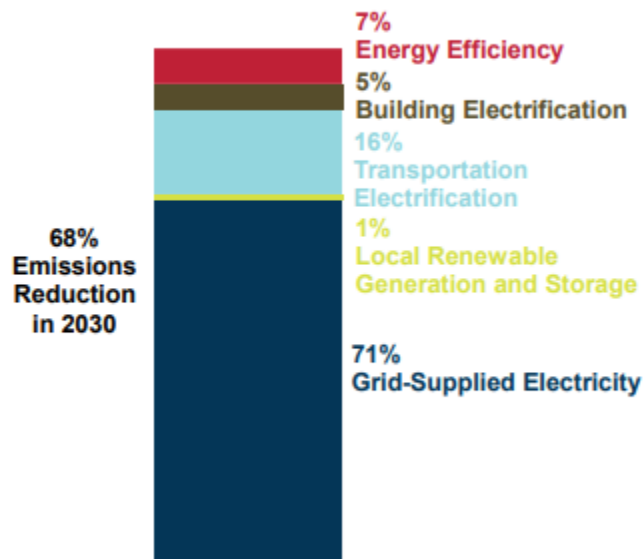
The Agreement included a preliminary set of project concepts – the “A” list, which represents concepts outlined during negotiations, and “B” list, which represents additional concepts from the community. The combined A and B lists, as well as the status of each item, are included as Appendix A.

With input and review from the [Community Advisory Panel](#), Xcel and the city developed the [Partnership Work Plan](#) to chart collaboration and innovation between the organizations. The first Work Plan was published in 2023 and covers the term 2023-2025. As shown in Figure 2, the work plan is broken out into 6 focus areas and 16 activity areas.



**Figure 2 – Partnership Focus Areas**

Xcel’s Partners in Energy team conducted analysis to establish targets for each focus area, benchmarked against the community’s GHG reduction goals. The combined impacts of implementing the strategies in these focus areas were determined to have the potential to eliminate electricity emissions and reduce overall energy and transportation emissions 68% below 2018 levels by 2030 as illustrated in Figure 3.



**Figure 3 – Partnership Contribution Towards Community’s 2030 Goal**

### Franchise Opt-Outs

The Franchise Agreement and associated Energy Partnership have an effective term of 20 years beginning January 1, 2021. However, unique to Boulder’s franchise agreement are provisions that allow the community to terminate the franchise prior to the full 20-year term. Pursuant to sections 2.4 and 2.5 of the 2020 Franchise, Boulder has the option to opt out of the 2020 Franchise at its sole discretion under the terms and conditions provided in paragraphs 2.4 and 2.5 of the 2020 Franchise. The provisions allow for two types of opt outs:

- 5-, 10- and 15-Year Franchise Anniversaries: The franchise can be terminated for any reason through either a two-thirds vote by City Council or through community ballot. Executing such termination must be done on or before December 15 prior to the end of the 5-year-term increment.<sup>1</sup>
- Greenhouse Gas Progress: The community, through two-thirds vote by City Council or through community ballot, may elect to terminate the franchise early if Xcel fails to achieve the system-wide emissions benchmarks set forth in the franchise agreement:
  - In the calendar year 2022: no more than 16.6 million short tons of carbon dioxide equivalent (CO<sub>2</sub>e)
  - In the calendar year 2024: no more than 13.6 million short tons CO<sub>2</sub>e
  - In the calendar year 2027: no more than 11.5 million short tons CO<sub>2</sub>e
  - In the calendar year 2030: no more than 6.9 million short tons CO<sub>2</sub>e

<sup>1</sup> The termination deadlines are December 15 of 2025, 2030 or 2035.

Executing such termination must be done on or before December 15 of the year following publication of the benchmark as independently validated by The Climate Registry.<sup>2</sup>

2025 represents a potential opt-out year for the franchise agreement. Staff, at Council's direction, can prepare and present additional analysis in Q2, prior to Council's decision whether to refer any items to the November election ballot.

## **ANALYSIS**

Since the November 2020 election, staff and Xcel have been working collaboratively to advance the goals of the partnership. Prioritization of work is informed by the Community Advisory Panel, a panel of resident and business representatives chartered to advise city and Xcel staff on the partnership. The following analysis presents highlights of partnership accomplishments and ongoing progress.

### **Work Plan Established to Outline Goals and Measures of Success**

Through a multi-year development effort, including conducting working groups on clean electricity, building decarbonization and equity, the [Partnership Work Plan](#) was developed. The work plan outlines the areas of focus and specific strategies that will be advanced through the partnership, as well as targets and measures of success that will be used to track progress.

### **Partnership Helps Expand Solar Access in Colorado**

Included in the partnership agreement, the city and Xcel agreed to work together at the state legislature to achieve shared goals. The first action for this joint effort was supporting the successful passage [Senate Bill 21-261](#), which expanded the size of systems that can be installed and gives property owners more flexibility about where to site solar. Other efforts include partnership on the Valmont Solar Garden, which provides enhanced bill savings for low-income residents.

### **Progress Made in Advancing Clean Electricity Goals**

One of the most critical elements of the Xcel partnership is Boulder's ability to achieve its climate and energy targets, especially 100% emissions-free electricity by 2030. In 2021, the partnership's progress toward this target took the form of advocacy in a state regulatory process. Every four years, Xcel Energy files an Electric Resource Plan (ERP) with the Colorado Public Utilities Commission. Through the ERP, Xcel presents its forecast for future electricity needs and its plans for the type and number of new power plants that must be built to meet future energy demand. In October, the city provided testimony that outlined approaches to accelerate emissions reduction, reduce long-term reliance on natural gas and ensure emissions accounting complies with state law. Since that time, Xcel and the city have worked to advance the concept of Zero Emissions

<sup>2</sup> Publication of 2022 benchmark remains pending.

Communities (ZEC), a program or set of programs that could help Boulder and other communities achieve their clean electricity goals. While work is ongoing, an [update](#) was recently given to the Community Advisory Panel.

Xcel was also [awarded a \\$12.7 million grant](#) from the U.S. Department of Energy to advance a virtual power plant (VPP) pilot program in Boulder. The pilot will seek to leverage customer solar, storage and load management to mitigate the need for building new utility-owned infrastructure.

### **Undergrounding and Advanced Fault Detection Enhancements Community Reliability and Safety**

Xcel and the city began efforts to modernize the community's energy grid. Guiding this effort are three goals - improve reliability, protect critical infrastructure and plan for the grid of the future. Under the franchise agreement, Xcel makes available the equivalent of 1% of the annual revenues it collects from the community for community-directed undergrounding within the public right of way, typically in conjunction with other public works projects. On average, 1% equates to \$1.2 million per year. As part of its settlement with the city, Xcel made an additional \$11.5 million available, which represents 1% funds for the 10 years the city was out franchise. Through 2024, a total of \$16.4 million was available for and has been allocated to four projects. Details for all four projects are included in Appendix B. Beyond the current projects, the city will continue to accrue 1% funds annually to be applied to future projects.

In addition to undergrounding, other reliability improvements included installing 18 automated fault location, isolation and service restoration (FLISR) devices, conducting drone inspections to identify issues and make repairs, and increased vegetation management.

### **Programs and Collaborations Drive Transportation Electrification**

Transportation emissions make up an increasing percentage of Boulder's - and Colorado's - annual greenhouse gas emissions. Driving an electric vehicle (EV) reduces emissions compared to the average gas-fueled vehicle and can improve local air quality. In late 2021 and 2022, the city worked with Boulder County communities and Xcel to develop a regional electric vehicle charging infrastructure plan to offer home and public charging stations to meet the needs of residents and businesses across the region.

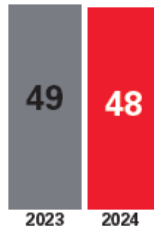
Xcel and the city also worked to leverage Xcel's transportation electrification programs to support community adoption of EVs. In addition to the residential program participation shown in Figure 4, Xcel's transportation electrification programs also supported 22 commercial charging station projects, with 8 more planned for 2025. This included supporting charging infrastructure at multiple municipal facilities, including fire stations and the Municipal Services Center.

Other efforts to advance EV adoption included support for Via Mobility and Eco-Cycle and launching of an innovated vehicle-to-building car share pilot program in partnership with Boulder Housing Partners (BHP) and Colorado Car Share at BHP's 30 Pearl location.

## Residential Programs

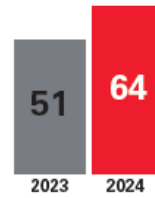
Numbers in bar charts represent the number of Boulder customers participating in each program

### EV Accelerate at Home Program\*



\*Note: in March 2024, the PUC decided to close EV Accelerate at Home program in Colorado. The program proceeded with a soft closure that was later reversed and the EVAAH program was approved to continue.

### Charging Perks Program\*\*

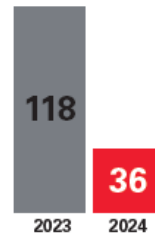


\*\*Note: the Charging Perks program offering received approval to expand from a pilot program offering to a permanent program, as of June 2024.

### Optimized Your Charger Program



### Charger and Wiring Rebate Program



Colorado EV Purchase and  
Lease Rebate Program

**155 TOTAL**  
BOULDER CUSTOMERS

**Figure 4 – Xcel Energy Programs Support Community Electric Vehicle Adoption**

## Increasing Participation in Programs and Services Helps Decarbonize Buildings

Through marketing and outreach, as well as collaborative work at the PUC, the Boulder community continues to lead in per capita participation in Xcel's demand side management (DMS) and beneficial electrification programs. The city helped drive increased participation through regulatory programs, such as the Building Performance Ordinance, and through its partnership with Boulder County to offer advising support and incentives to residents through [EnergySmart](#) and businesses through [Partners for a Clean Environment](#). Figure 5 highlights the recent year over year participation rates and cumulative savings.

Xcel is also supporting the city in a heat pump accelerator pilot, which aims to drive increased adoption of heat pumps while also making heat pump solutions more accessible to residents of multifamily buildings. To date, focus groups have been conducted with residents and homeowners associations in the Shanahan Ridge neighborhood. Planning is underway to launch a group buy program during second quarter 2025.



<b>Metric</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024 (Q1-Q2)</b>	<b>Total since 2020</b>
DSM Participation (residential)	358	656	892	520	231	<b>2,657</b>
DSM Participation (commercial & industrial)	1,046	1,399	1,592	2,829	946	<b>7,812</b>
<b>DSM Participation (total)</b>	<b>1,404</b>	<b>2,055</b>	<b>2,484</b>	<b>3,349</b>	<b>1,177</b>	<b>10,469</b>
DSM kWh Savings (residential)	573,252	723,917	580,821	886,287	455,479	<b>3,219,756</b>
DSM kWh Savings (commercial & industrial)	11,473,145	18,151,014	10,285,213	11,539,164	8,327,817	<b>59,778,353</b>
<b>DSM kWh Savings (total)</b>	<b>12,046,397</b>	<b>18,874,931</b>	<b>10,866,034</b>	<b>12,425,451</b>	<b>8,783,296</b>	<b>62,996,109</b>
DSM Therm Savings (residential)	74,915	113,336	153,791	273,514	135,594	<b>751,150</b>
DSM Therm Savings (commercial & industrial)	55,040	48,766	3,678	3,857	3,501	<b>114,842</b>
<b>DSM Therm Savings (total)</b>	<b>129,955</b>	<b>162,102</b>	<b>157,469</b>	<b>277,371</b>	<b>139,095</b>	<b>865,992</b>

**Figure 5 – Boulder Resident and Business Participation in Xcel Energy Demand Side Management (DSM) Programs**

#### **Xcel Transfers Ownership of Streetlights to the City**

The city's streetlighting system has been a hybrid of city- and Xcel -owned and operated fixtures. For many years the city had been interested in converting the Xcel streetlight system to LED luminaires for energy savings/GHG reduction, cost savings, reduced maintenance, better visual acuity, and ability to remotely monitor and control. Starting in 2020, the city and Xcel began exploring solutions and ultimately concluded the best path forward would be for the city to acquire the streetlight system from Xcel. The acquisition and transfer was completed in 2024, and the city has begun the process of retrofitting the lights.

#### **Improvements for the Next 5-years of Potential Partnership**

The Work Plan continues to serve as a foundation that will inform the ongoing efforts of the partnership. While GHG reductions remain an important area of focus, the city's emerging priority will be addressing community concerns around wildfire risk and grid reliability, including focusing on modernizing and readying the grid for the future growth associated with building and transportation electrification.

There is clear concern over Xcel's grid infrastructure and the wildfire risk it poses, as evidenced by Xcel's use of a public safety power shutoff in April 2024 and enhanced safety settings that led to extended outages in the community over the summer. There is also growing concern as to whether the necessary investments will be made to ensure the grid is ready to support future electric growth as the community transitions buildings off of natural gas and adopts electric vehicles. Grid reliability and wildfire risk are pressing priorities that must be elevated in the city's work with Xcel. This includes correcting the deficiencies in communication with the city and community that occurred during the



public safety power shutoff. Together, the city and Xcel have been working to set priorities for wildfire risk mitigation, better identifying critical infrastructure and supporting our businesses and residents in being prepared for outage events.

The city is also seeking general partnership improvements including strengthening regular coordination meetings to ensure alignment on key initiatives, enhanced data sharing to track progress on energy goals, and joint problem-solving to navigate regulatory or technical barriers. Additionally, staff will work to improve communication channels between the city, Xcel, and community stakeholders to foster transparency and accountability. By deepening this partnership, we aim to accelerate progress toward our shared climate and energy objectives while remaining adaptable to evolving needs and opportunities.

### **NEXT STEPS**

Staff and Xcel will continue to provide periodic updates to council on partnership progress. During 2025, the city and Xcel will develop an update to the Work Plan detailing priorities for the next three-to-five years. If directed by council during this study session, staff will produce additional information to inform council's Q2 discussion of potential 2025 ballot measures.

### **ATTACHMENTS**

Attachment A: A/B Project List Status

Attachment B: Undergrounding

### Attachment A – A/B Project List Status

The following provides a high-level status of the conceptual project areas that were identified as part of the Energy Partnership Agreement. The so-called “A and B Projects” lists have evolved and refined into a more detailed [Energy Partnership Work Plan](#) with priorities informed by Community Advisory Panel.

Attachment	Category	Project Title	Project Objectives/ Key Outcomes	Status
A	Local Generation and Resilient Infrastructure	Demonstrate technical viability, customer and business benefits of eliminating or increasing the 120% or Rule limit.	100% Renewables, Local Generation, Emissions Reduction, Legislative, Regulatory	Project was completed with the passage of <a href="#">Senate Bill 21-261</a> .
A	Local Generation and Resilient Infrastructure	Chautauqua Energy Plan	Improve Resilience and Reliability for Chautauqua	First phase of undergrounding to begin in Q3 2024.
A	Microgrid Demonstration and Resilience	Neighborhood Microgrid and Virtual Power Plant (VPP) Pilot	Distribution System Planning, Resilience, Emissions Reduction, Innovative Customer Programs, Regulatory	Grant application for VPP pilot submitted to DOE in Q2 2024. DOE decision pending as of July 2024.
A	Transportation	Transit / School Bus Electrification Tariff	Transportation Electrification, Emissions Reduction, Regulatory	Not started.
A	Local Generation and Resilient Infrastructure	Hydrogen Electrolysis Pilot	100% Renewables, Innovative Customer Programs	Not started.

<b>Attachment</b>	<b>Category</b>	<b>Project Title</b>	<b>Project Objectives/ Key Outcomes</b>	<b>Status</b>
A	Clean Energy Goals, Renewable Integration, Resiliency	Residential Demand Response Battery Pilot	Build upon lessons learned from Stapleton and Panasonic pilots to expand energy storage technology integration and develop a process and plan to leverage this technology for benefit for customers, the city, and the utility.	Not started due to the fact that Xcel Energy already had a battery pilot underway that included Boulder participants.
A	Reliability, Aesthetics	Undergrounding	Utilize new backlog and new undergrounding funding from Xcel to improve reliability and aesthetics.	On track. Two projects completed (N. Broadway and 19 <sup>th</sup> Street) and two projects in progress (E. Arapahoe and Chautauqua).
A	Transportation	Transportation	Identify potential fleet electrification opportunities. Identify barriers and how city and Xcel can remove barriers	Underway.
A	Transportation	Transportation	Increase EV penetration and create system to handle increasing EV penetration	Underway.

<b>Attachment</b>	<b>Category</b>	<b>Project Title</b>	<b>Project Objectives/ Key Outcomes</b>	<b>Status</b>
A	Wildfire Mitigation/ Resiliency	Wildfire Mitigation Plan	Projects to reduce risks to the area associated with wildfire	No partnership projects initiated; however, Xcel Energy has proceeded independently with wildfire mitigation efforts.
A	Clean energy goals, Renewable Integration, Resiliency	Increase customer participation in Xcel Energy RE and DSM programs	Utilize current and future data from new metering data to develop design and implement new renewable and DSM programs.	Conducted Advisory Panel Working Group to inform future partnership efforts.
A	Clean energy goals, energy efficiency, aesthetics	Streetlighting Pilot	Explore streetlighting solutions that would satisfy the City's lighting goals and objectives.	Completed. Pilot not pursued due to decision to proceed with Boulder acquisition of streetlighting system. Streetlight acquisition is complete.
A	Planning Process	Distribution and Construction Planning Coordination	Coordinate Distribution Planning & to minimize impacts to the community from City and Xcel projects	Ongoing.

Attachment	Category	Project Title	Project Objectives/ Key Outcomes	Status
A	Process	Joint Trench Standard	Minimize impacts to the community from City, Xcel, and other utilities' projects.	Explored, but not yet implemented on a project.
B	Accelerate carbon footprint reduction, reliability	Electric Vehicles		Consolidated with other transportation electrification efforts.
B	Distribution System Planning	Non-wires alternative project		Virtual power plan project initiated.
B	Clean Energy Goals	High PV Integration/ Accelerate Solar Adoption		Workshop held to understand barriers to solar adoption.
B	Futuristic Ideas	Broad set of goals, need to prioritize.		
B	Grid Modernization	Distribution System Planning Coordination and Prioritization	Distribution System Planning, Performance, Reliability & Aesthetics	Added to Work Plan. Ongoing.
B	Grid Modernization		Improve aesthetics to neighborhood, improve system resilience	Consolidated with above item.
B	Meeting Customer Need	Flexible Service Offerings		Not started.
B	Reliability Equity	Identify and improve reliability and resilience equity		Consolidated with distribution system planning.

Attachment	Category	Project Title	Project Objectives/ Key Outcomes	Status
B	Reliability Improvements	FLISR + targeted undergrounding		Added to Work Plan. Consolidated with Grid Modernization project.
B	Research and Demonstration	Alpine Balsam		Explored, but not pursued.
B	Research and Demonstration	Second-life battery storage		Not started.
B	Research and Demonstration	Solar Technology Acceleration Center (SolarTAC)		Not started.
B	Research and Demonstration	US DOE Funding Request		VPP application submitted.
B	Resiliency, Asset Health	Transmission Projects		9216 rebuild in planning phase.
B	Resilient Infrastructure	Identify key customers requiring a more resilient infrastructure	Create a more resilient system for key customers to benefit community in times of system strain	Addressed in part in distribution system plan and reliability analysis.

## Attachment B – Undergrounding

Under the franchise agreement, Xcel makes available the equivalent of 1% of the annual revenues it collects from the community for community-directed undergrounding within the public right of way, typically in conjunction with other public works projects. On average, 1% equates to \$1.2 million per year. As part of its settlement with the city, Xcel made an additional \$11.5 million available, which represents 1% funds for the 10 years the city was out franchise. Through 2024, a total of \$16.4 million was available for allocation to projects. This budget has been allocated to four projects:

### North Broadway (\$3.9 million - actual)

Started in 2021 and completed in 2022, the North Broadway 1% Project converted approximately 1 mile of existing overhead distribution lines to new underground distribution lines. The project was done alongside the city's North Broadway Reconstruction project and, as illustrated in the map below, began at a point just south of the intersection of North Broadway and Violet Avenue and extended to the intersection of North Broadway and U.S. Highway 36.



Figure 6 - North Broadway 1% Undergrounding Project

The North Broadway was prioritized to:

- Facilitate future redevelopment
- Mitigate the need to cut into the new concrete roadway for future redevelopment projects
- Improve reliability for customers and businesses along and to the west of North Broadway.



19<sup>th</sup> Street (\$2.3 million – actual)

Started in 2022 and completed in 2024, the 19th Street 1% Project converted approximately 3,300 feet of overhead electric distribution lines to new underground distribution lines along 19th Street, between Upland and Norwood Avenues as shown in the map below. This project was done alongside the 19th Street Multimodal Improvement Project.

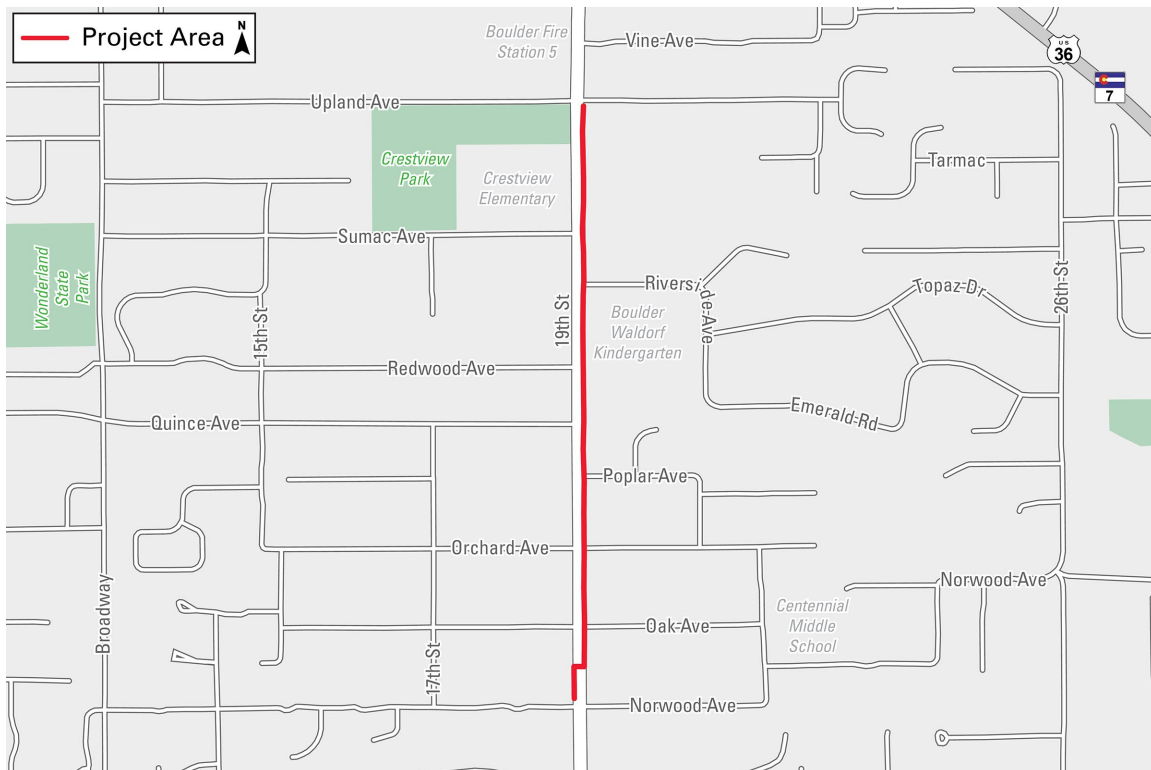


Figure 7 – 19<sup>th</sup> Street 1% Undergrounding Project

The 19<sup>th</sup> Street Project was prioritized to:

- Make space in the right of way for the multi-modal path
- Improve reliability for surrounding neighborhoods

East Arapahoe (\$7.9 million-estimate)

Started in 2024 and expected to be completed in 2025, the East Arapahoe 1% project will convert approximately 0.8 miles of overhead distribution lines to underground distribution lines along East Arapahoe Road, from McArthur Drive to 56<sup>th</sup> Street as shown in the map below. This project is being done alongside the East Arapahoe Multi-Use Path and Transit Stop Project.

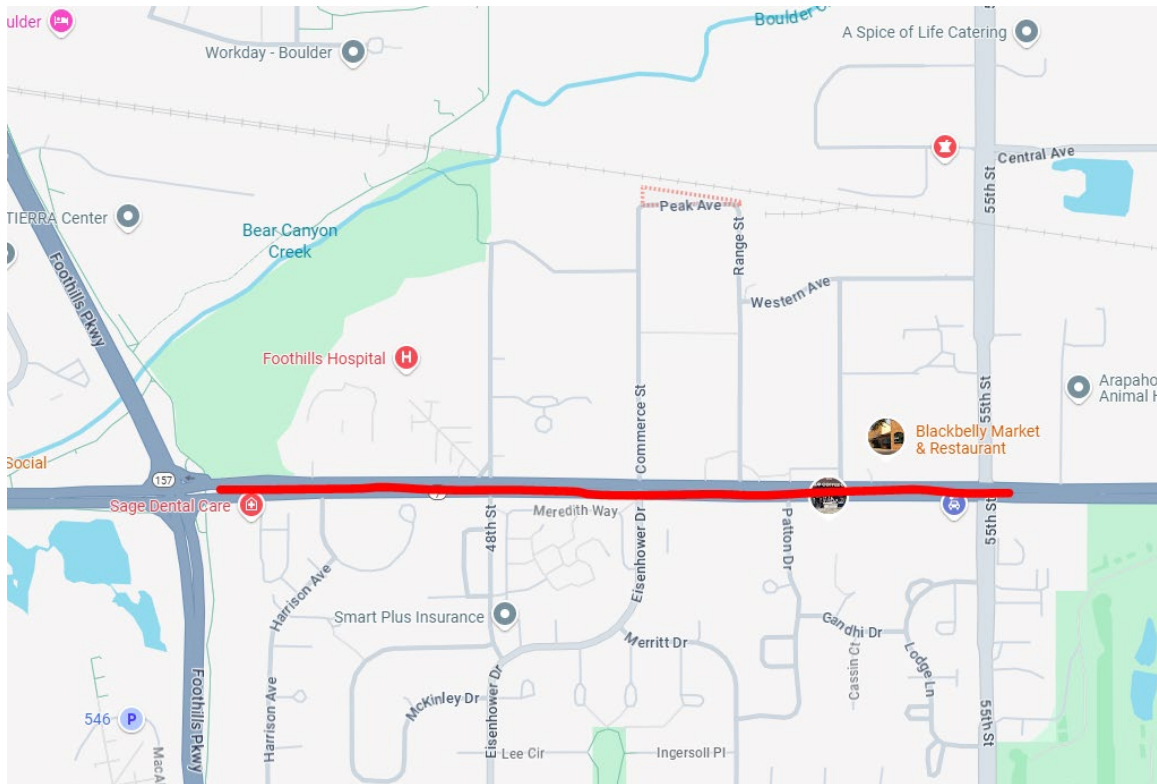


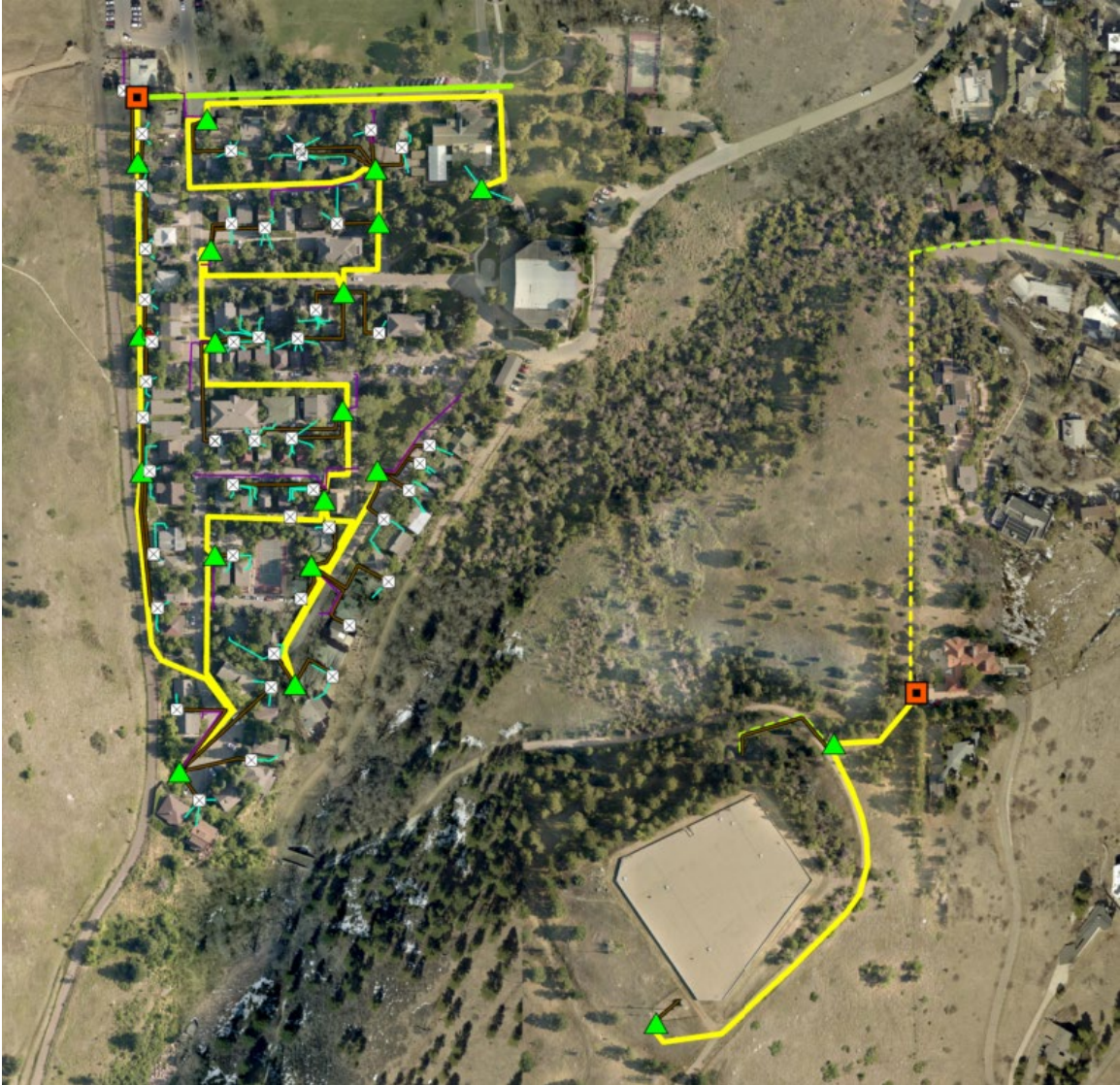
Figure 8 – East Arapahoe 1% Project

The East Arapahoe Project was prioritized to:

- Make space in the public right of way for the multi-use path
- Mitigate impacts to adjacent properties

#### Chautauqua (\$TBD)

Started in 2024, this three-phase project that is being done in partnership with the Chautauqua Association will underground the overhead distribution lines within the Chautauqua lease hold area, as well as within the open space area up to the water tower as shown in the map below. This project represents one of the most complex undergrounding projects Xcel has undertaken. The first phase of the project will underground the line to the water tower. Subsequent phases will underground along the western perimeter and then move lease hold.



The Chautauqua Project was prioritized to:

- Mitigate wildfire risk
- Improve the view shed