

Memorandum on ARPA Street Lighting Project

Update on Project

Through multiple Common Council actions, \$19.5 million in American Rescue Plan Act (ARPA) funds was allocated for an investment in the City's street lighting system, with the project description including a list of 28 circuits with abnormally high outage rates to be replaced. Of the \$19.5 million, the Department of Public Works (DPW) has contracted for the design and engineering of those 28 circuit replacements (approximately \$1.2 million) and has begun purchasing the materials and supplies needed to complete those circuit replacements (expected to be between \$7.0 million and \$11.0 million, depending on material availability).

As was previously discussed with the Public Works Committee, DPW has also been pursuing the contracting out of construction for the circuit replacements. The June 2023 contract letting, which included two circuits as one project, received no bids. In July 2023, these same circuits were split into two projects, with one circuit in each project. In addition, extra time was permitted for contractors to complete the work. One qualified bid was received for each package, but unfortunately at roughly 2.5 times the estimated cost to complete the work.

In discussing both lets with contractors that DPW staff would have expected to bid on the work, a couple challenges came to light:

- Due to the increased amount of transportation investment occurring due to the Bipartisan Infrastructure Law, many of the contractors with the experience needed to do this type of electrical work are already at or past their capacity for this year and next, and are unable to take on more work.
- Related to the first bullet, electrical contractors have reached their bonding authority limits, requiring them to partner with a general contractor to submit a bid (as happened in the July 2023 letting). As would be expected, the general contractor would require compensation for their role as prime contractor.

If this experience is indicative of future attempts to let additional circuits for construction, only approximately 10 circuits of the planned-for 28 would be able to be funded with the allocated ARPA funds. DPW believes that continuing on this current path would result in over-paying for a relatively small number of circuits to be completed as part of the ARPA project. We are also concerned about there being available contractor capacity to complete even 10 circuits by the 2026 expenditure deadline associated with ARPA funds.

Recommended Change in Project Description

Due to these challenges, DPW is recommending a change to the project description and approach. To enable Electrical Services staff to pursue these circuit replacements in the future, ARPA funds would still be used to complete the already-underway design on all 28 circuits. In addition, ARPA funds would continue to be used (up to \$11.0 million) to procure materials and supplies for these circuit replacements, so that staff can complete the circuit replacements as internal capacity allows.

The remainder of the funds would be used to complete the upgrade of all or nearly all of the remaining eligible street lighting fixtures to LED across the City in the next two years, resulting in roughly 60% of the City being brighter at night than it was in 2020. Approximately 44,000 (out of approximately 77,000) street lights and nearly all of the approximately 10,000 alley lights across the City are on circuits that can accept LED fixtures. Over the past couple years, the City has already installed approximately 15,000 LED

street and alley lighting fixtures across the City, and between Federal grants recently received and 2023 City capital funds already committed, expects to complete the replacement of an additional approximately 12,000 street lighting fixtures with LEDs in 2023 and 2024. Changing the project description will enable an additional approximately 25,000 fixtures to be replaced with LEDs by the end of 2026.

There are several advantages of replacing existing fixtures with LED fixtures on an accelerated pace:

- Wider, more immediate impact: Any fixture on a multiple system circuit is eligible for upgrade to LED, and every Aldermanic District in the City has locations where street lights would be upgraded under this approach. Rather than approximately 1,500 lights being replaced if the current project description is followed, approximately 25,000 lights would be replaced, having a more visible impact in more neighborhoods across the City.
- Increased light: Even at their reduced wattage, LEDs cast slightly more light than the lighting technologies that they would be replacing. This can have positive impacts on public safety and transportation safety, and is consistent with the City's Vision Zero commitment.
- Decreased carbon emissions: Consistent with the recently-adopted Climate and Equity Plan, an accelerated LED implementation would reduce carbon emissions. Actual emission reductions are dependent on the power generation source, but LED fixtures use only 50% to 60% of the electricity of an equivalent existing fixture.
- Energy cost savings: At least \$750,000 annually is expected to be saved when the upgrade to LEDs is complete, and this approach would allow for those savings to be captured earlier.
- Accurate cost estimates: DPW recently let a contract for LED fixture replacements, and costs for a contractor to complete the work came in as expected.
- Greater contractor capacity: A broader range of electrical contractors can complete fixture replacement work, as it is less complex. In addition, fixture replacement work can be completed in nearly all weather conditions, including when the ground is frozen.
- Accelerate future circuit replacements: The earlier capture of savings from reduced electrical bills and the ability to redirect City capital dollars from LED upgrades to circuit replacements (dependent on future adopted budgets) would allow the regular, annual investment in circuit replacement to more than double, from approximately 2.1 million annually (as of 2023) to approximately \$4.7 million annually. Recently increased salaries for laborer and trades staff across the City are hoped to decrease vacancy rates and increase internal capacity to pursue circuit replacement work. In addition, contracting for circuit replacement work can also be explored in the future should external capacity increase or demand for electrical work decrease.
- Reduce single-lamp outages: The City currently has a five-year backlog of lights that have reached the end of their life and have gone dark. It is believed that accelerating the LED fixture upgrade effort will reduce that backlog by 60% or more.

The primary disadvantage of this change to the project description for ARPA funds is that it would not result in a relatively small-but-important jump in the City's progress on replacing failing circuits. Although containing only approximately 1,500 street lighting fixtures, the ten circuits that are estimated to be replaced if no change is made to the program description represent an estimated 12% of the approximately 3,200 circuit outages that have recently been occurring each year.

Next Steps

Should the Council approve the recommended change in program description, DPW staff would continue work supervising the design of the 28 circuit replacements and continue buying needed materials and supplies for those circuit replacements. The purchasing of additional LED street lights will be aggressively

pursued, and contract documents will be developed to let LED upgrades in appropriately-sized project packages. Staff will also continue to explore innovative contracting and technology solutions to accelerate circuit replacements, including increasing directional boring capacity internally and through contracting, and piloting solar+battery street lighting solutions to determine their capacity to withstand our weather conditions and operate reliably.