

High Density Urban Utility Forum

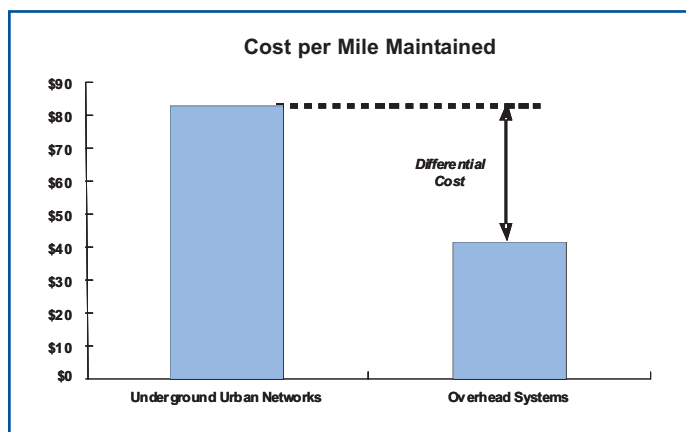
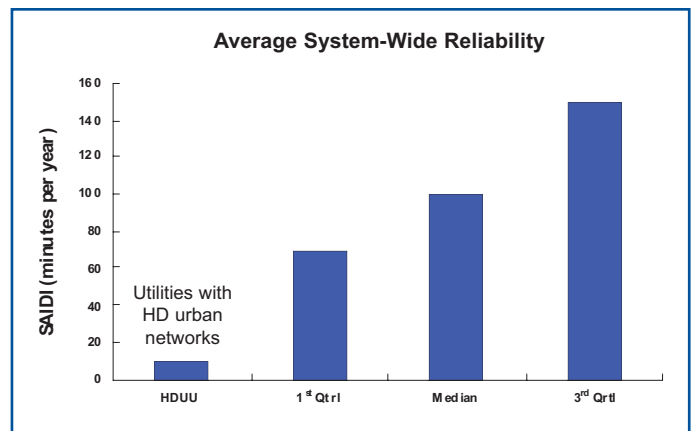
Most medium to large electric utilities possess one or more major business districts or city centers within their broad and often far reaching service territory. And because of the unique nature and risks associated with these urban areas, most if not all are characterized by a robust and complex network infrastructure, with its origins often dating back to the development of the city center itself.

The operators of these networks, have been forced to maintain the highest levels of reliability while faced with aging infrastructure continued load growth and expansion of the city centers. This has resulted in several key challenges for Urban Network operators, including:

- Regulator and customer expectations of higher reliability often drives more frequent capital investment in the network.
- The requirement to have the network underground (rather than overhead) also causes demonstrably higher capital and maintenance costs.
- Construction costs are usually higher due to local regulations governing work site management (e.g., limited work hours, police/traffic control costs, requirements to work at night, etc.) and the logistical issues inhibiting access of vehicles and work teams to the work site (traffic, narrow streets, etc.).
- Meter reading productivity levels are usually exceptionally high due to predominance of high-rise buildings and the ease of reading many meters at once.
- Higher volume of customer movements causes greater number of turn-on/turn-offs and associated processing and management effort.
- Extraordinary real estate costs for new facilities (if space is available at all).
- Growing congestion in the city streets, limiting options for meeting load growth.

As a response to these unique challenges, UMS Group announces it's High Density Urban Utilities Forum (HDUUF), a dynamic sharing and learning consortium. This forum will address these issues by providing best practices, relevant benchmarks, and interactive roundtables with the world's largest and most sophisticated grid networks. The program will deliver:

- Active dialogue and experience sharing in connection with current and emerging issues of concern to network operators.
- Performance comparisons on cost, productivity, and service levels segmented by population density and geographic profiles.
- A catalogue of insights and best practices from high performance operators.
- Operational results/best practices conference designed for functional managers and directors responsible for addressing opportunities and implementing key learnings.



- An executive roundtable for Senior executives to address high level project results and strategic implications.

Most existing industry forums fall short of meeting the emerging needs of utilities in this area:

- Educating the regulator on HDUU challenges
- Asset Management for Aging Networks
- Network Performance Management
- Network HR issues
- Supply Chain issues

The program will define the strategic and tactical options that HDUUF companies must explore:

- Strategic Options include changing over time (the 'long run') such variables as:

Best Practice – Minimizing feeder restoration time is critical to network reliability and the failed feeder must be quickly and positively identified prior to being repaired. The correct identification of distribution feeders in HDUU systems is complicated by the fact that multiple feeders often occupy a given trench or manhole. EDF Paris makes use of an innovative tool that allows a single field operator to identify a distribution feeder by recording a message using his own voice and listening for that message at a remote point in the distribution system. Detection of the signal carrying his voice allows unique and positive identification of a specific cable.

- Mix of load served by spot networks vs. secondary grids
- Size and number of secondary grids
- Mix of cable type (PILC/XLPE/EPR)
- SCADA and monitoring of system status
- Tactical Options include short-run fixes like:
 - Inspection, maintenance, and repair, including alternatives to hi-potting
 - Process changes that can be implemented relatively quickly to yield quick results

The Program is modeled off of UMS Group's benchmarking methodologies, a unique framework that has been employed for over 16 years at several hundred organizations. In parallel, a series of quarterly issue focused roundtables will be conducted via conference call with internet presentations of innovative solutions and best practices by leading companies in each issue area. Membership is being solicited during July, with orientations beginning in July and August and the first roundtable scheduled for late July. Benchmarking and best practice identification will take place throughout Q3 with an Operations Conference set for October. Program costs are shared across the participat-

ing group, in proportion to the scope of program activities each utility joins.

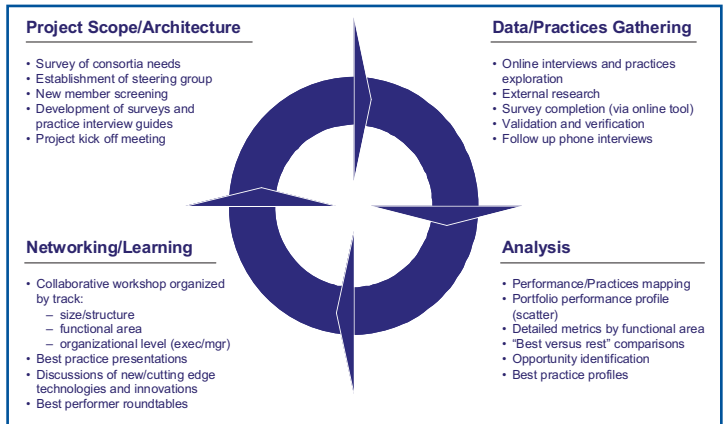
Why join HDUUF? Regulatory cost and reliability comparisons typically fail to distinguish between high density utilities and other electricity providers, often giving false indications regarding appropriate cost and performance targets. In addition to Regulatory insights, the program will provide the following critical benefits to network operators:

Asset Management – Insights into strategies and tactics used by successful network operators for asset change out / replacement / refurbishment across the network, the economics of new technologies, new methods, and new network designs, propagation rates for spot networks, phase out strategies for certain types of plant and equipment, shared data and analysis identifying equipment failure rates and risks, useful input for future network planning and design, and early identification of emerging issues and most successful responses, etc.

Supply Chain – Shared experiences regarding the performance of specific vendor offerings (the forum will act like a user group that comes together for increased leverage with the vendors), sharing of strategic spares, etc.

Performance Management – Useful insights to companies for setting internal targets for performance improvement over time, as well as for differentiating between their urban and non-urban divisions.

Productivity Management – Standards for measuring relative productivity of the internal workforce, and for use in bidding / negotiating new work to be performed by contractors.



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Program leadership is provided by a Steering Committee comprised of some of the best and most innovative utilities in the industry:



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