Three Smart Cities

EXECUTIVE SUMMARY

Smart cities remains a somewhat nebulous concept since its introduction many years ago. Though it refers to efforts to enhance urban life through high technology, as a primarily vendor-defined concept, it often rankles public officials who focus on improving service rather than expanding technology. There are crucial differences between various manifestations of the smart city idea, but there is no question that cities in the U.S. and worldwide will increasingly use data and high technology to improve the operation of public services, making the smart cities concept of wide concern for all.

The smart cities domain can incorporate virtually all areas of local public responsibility, from traffic and parking to waste management, environmental monitoring (including noise) and energy saving and generation, public safety and emergency response, water treatment and flood prevention and, of course, infrastructure monitoring (potholes, lighting, graffiti).

There are profound differences between technology features grafted onto longstanding, naturally evolving cities, and the concept, primarily in Asia, of new technology-based smart cities built from scratch. Some smart cities programs are manifestations of specific modalities, such as "smart cards" and "smart screens." There can be efforts to integrate multiple technologies on the transportation side, such as autonomous and/or connected vehicle technology. There can be efforts focused particularly on integrating multiple data streams (Glasgow claims more than 200) and the analytics that follow from those to accomplish particular goals. Smart city projects in Asia and Europe have taken the concept further than it has generally gone in the U.S., partly because of greater concentrations of public resources.

Three Smart Cities examines public high technology – or smart city – activity in three major U.S. cities. Chicago and Boston have been relatively prominent for their projects over the last few years; and Columbus, Ohio, is positioned for significant progress as the winner of the federal Department of Transportation’s first Smart City Challenge, awarded in 2016 and covering a four-year period through 2020. Further, this report examines how these smart city applications are implemented across city governments and public-private partnerships. Finally, this report projects Columbus’ future smart city plans, with resulting implications for U.S. (and global) cities more broadly.

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Some projects drawing the most interest today include Internet of Things (IoT) platforms of various kinds, mobile applications generally, autonomous vehicles, connected (with vehicles) infrastructure, including traffic signals and use of sensors, prominently for monitoring vehicle and pedestrian traffic and greenhouse gas emissions, as well as other environmental-related activity and smart utilities.

Three Smart Cities is published in PDF format.