

Helping Your Local Government Become More Data-Driven

The world we live in has become progressively complex, underpinned by technology that pervades all facets of our lives. This complexity can pose significant challenges for city¹ governance, including managing budgets, infrastructure, and educational systems. A city's leadership faces numerous hurdles due to the multitude of components in play, the diverse range of stakeholders to coordinate, and the inherent constraints of limited resources such as time, personnel, and capacity. However, the silver lining of this intricate landscape is the abundance of data it generates. Harnessing this data can substantially ease the task of managing complexity.

Therein lies the opportunity: Municipalities can realize material benefits from embracing a more data-driven approach. For example, there are many areas where data and advanced analytics can propel cities forward:

- *City budgeting* – It's an optimization problem: minimize cost while generating maximum utility
- *Planning and housing* – Forecasting trends, quantifying return on investment
- *Sustainability* – Modeling our future and how to prepare for it

Track 2 has the experience and know-how to help cities transition towards being more data-driven, without the need for adding staff or expertise. Our role would be to offer strategic guidance, create proofs-of-concepts, and empower staff with tools to be more effective, along with the on-going support to ensure long-term success. With Track 2's help, embracing data and analytics will enable you to

- **Do more** with existing resources
- **Increase objectivity** in decision-making
- **Reduce inefficiencies**
- Shift from a reactive to a **proactive** stance

Track 2 is ready to help your city move forward. Pro bono pilot projects are certainly an option. If you would like to discuss any of these ideas or others, please don't hesitate to reach out: smckenna@track2analytics.com | 617-272-0680

(over)

¹ While we use the terms "city" and "municipality," the ideas presented here also apply to towns and all forms of local government.

ABOUT TRACK 2 ANALYTICS

Track 2 Analytics — powered by **Sean P. McKenna, PhD** — emerged in 2023. Dr. McKenna has spent his career developing impactful ways in which advanced analytics, machine learning (AI), data processing, and [you-name-it] can be leveraged to solve challenging problems in areas such as physics/science, cyber(risk), modeling and simulation, prediction, and optimization. He has extensive experience with all aspects of data analysis and interpretation and has developed solutions to an eclectic array of technical problems for academic, government, and commercial clients. Dr. McKenna leverages broad technical expertise and analytical rigor to drive innovative solutions across the spectrum of analytics, from data ingest and transformation to dynamic visualization of results to tool development.

At Track 2, one of our core focus areas is proofs-of-concepts, demonstrations, and prototyping. In other words, bringing the art-of-the-possible and bleeding-edge ideas to life. No area is off limits: science, mathematics, engineering, cyber, optimization, automation, visualization, technical writing, and more. We also focus on making organizations more data-driven, moving beyond outdated tools, and truly leveraging the power of data and analytics.

Examples of Dr. McKenna's project experience that would translate to municipal challenges include:

Youth Soccer Player Assessments (personal effort, 2023)

As a local soccer coach, recently worked on a way to make the player evaluation process (which drives how players are assembled into teams) more data-driven, less subjective, and less time-consuming. Mixed available data, proven analysis approaches, and creativity to develop a methodology that illustrated one way in which analytics could enhance the current MYS approach.

Identifying City Fire Risks (personal effort, ANALYZE BOSTON Open Data Challenge, 2017)

Using data from the Boston Fire Department, the Inspectional Services Department, and the Assessing Department, developed a proof-of-concept, machine-learned model to estimate fire risk for properties throughout the City of Boston. Work was presented at the ANALYZE BOSTON Open Data Challenge Showcase and was one of the award winners.

Non-Profit Growth Strategy Tool (professional client engagement, 2017)

Worked with FIRST (For Inspiration and Recognition of Science and Technology) to create an interactive data exploration dashboard that let FIRST staff visualize and overlay various relevant data fields such as population, school/education, and FIRST participation data, enabling a more data-driven approach for informing growth strategy. This tool enabled FIRST to better forecast program growth and identify needs and opportunities related to fundraising, school utilization, and program infrastructure.

Employee Compensation, Recruiting, and Retention (professional internal project, 2015)

Assessed company's base pay compensation in the context of two key questions: (1) Are job offers not being accepted, and (2) are staff leaving, because our base pay compensation is not sufficiently competitive. Using a data-driven approach, explored what levers were available to impact both immediate and strategic change, and what could be done to minimize compensation-based risk while protecting profitability.