

UAB Grand Challenge - Future City

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The Problem

The problem space to be considered is the concept of a city. The entire city – not just the poor, the homeless, the jobless, the working poor, or any other subgroup. A city must provide a mechanism to satisfy the needs of all its citizens. Everyone needs clean, attractive streets and homes, safety and security, education options for their children that are safe and effective, enrichment activities for everyone, entertainment opportunities, an economic engine, a home.

Driving a new vision of what a city can be to each of its citizens and what they can be to their city can not only prepare to cope with the new problems that we will face, it can help us to solve many of the ones we already face.

The nature of the UAB Grand Challenge is to think big and long term. We propose to engage nearly every discipline in the university as well as government, industry, and the non-profit / philanthropic community in a partnership to re-imagine the nature of the modern city. And then build it in Birmingham. What can we do to make Birmingham, Alabama the city that best serves its users in the entire world? That is the question to be answered.

Birmingham is a perfect subject for this endeavor. It is a city that is large enough to be a good test bed, but not so large that implementation would be intractable.

We propose to imagine what a fully-developed Future City can be for its citizens, then apply the most current knowledge of technology, economics, business, art (performing and fine), science, and communications to make that dream a reality. To begin, we will imagine a city as a collection of collaboration spaces – both physical and virtual intended to provide localized services and capabilities to the residents of Birmingham in an integrated and wholistic manner.

Importance to Alabama

Turning Birmingham, Alabama's largest city, into a world-class, 21st Century city would do enormous good to the state, socially and economically. The successes and challenges of this effort, well documented and studied, can serve other cities in Alabama, the US, and the world as models for their own controlled growth and development.

Goals

Future City - Birmingham 2050: Reimagine the city as a collaboration space composed of many smaller physical and virtual collaboration spaces, use that paradigm to assemble the vision of what the city can and should be, then build it.

Initially, the goal is to make Birmingham, Alabama the most connected city in America. Ultimately, to make Birmingham a place that seamlessly merges digital and physical collaboration spaces at every level. Apply art, science, architecture, and economic development – including fostering entrepreneurship and attracting new business to the area – to reach the ideal Future City.

Specifically, launch the connected Birmingham effort and, in the short-term build towards:

- A City-wide digital access infrastructure (including existing commercial providers)
- A Telemedicine system that brings healthcare professionals to the patient accessible to all.
- A platform that fosters communication and community within and among neighborhoods.
- Connecting neighborhoods with police departments using those neighborhood systems.

Plan of Work

1. Establish an executive council and director to drive the project forward
2. Establish an advisory board – subject matter experts / changes over time as needed.
3. Develop overall strategic implementation plan and specific implementation targets
4. Develop detailed requirements for implementation targets, including budgets
5. Recruit stakeholders and marshal the funds for implementation
6. Implement the physical / digital infrastructure for implementation targets.
7. Market the capability to the end-users and other interested parties
8. Assess success / challenges, make adjustments, and provide for the continuation.
9. Return to step 4 for the next set of implementation targets. Repeat until complete.

The strategic plan should be re-visited on an on-going basis. Completed projects assessed, new knowledge integrated, and over-all reviewed with respect to goals and changing conditions. Future targets could include additional services, public art, architectural and real estate efforts, and others based on ideas from the council and stakeholder community.

Outcomes

The result of all this? Initially - increased access to more people while leveraging the scarce resource of medical professionals and facilities. Increased trust of law enforcement by and better interaction with the citizens. Increased sense of community within neighborhoods and between neighborhoods.

Long term, a Future City that serves all of its residents' needs well into the 21st century and beyond.

Potential Team Members

Potential team members for implementation of the Future City vision will come from the four groups discussed in the concept paper – university, industry, government, and the non-profit / philanthropic community. Anyone who lives in, lives near, visits, or does any business in Birmingham is a stakeholder and a potential partner.

Industry

Internet providers and technology companies will have to be recruited for the connectivity initiative. There is a wealth of technology companies in nearby Huntsville, who are skilled and experienced in the development and deployment of software and communications systems who can help. Quadrus Corporation is among the ones that have applicable capabilities and already have a relationship with the university. We are very interested in supporting the Grand Challenge effort. Others can be brought in as needed. This is a resource that should be tapped for the Future City.

Large industry players that might have an interest due to the geographic location (e.g. Regions Bank) or specific area of interest (e.g. Google or Amazon) should be approached for both support and expertise.

Government

It is our suggestion that initially, at least, members of city and state government be included in the advisory board, possibly as ex officio members to avoid causing conflicts of interest. Clearly, this effort will require coordination with and regulatory guidance from city, state, and possibly federal entities. Government entities will ultimately also be needed to reach the final goal of the Future City.

Philanthropic and non-profit community

Local philanthropists and non-profits should be recruited for support and ideas as well as to actively participate in the portions of the plan that suit their particular organization. These will be identified as part of the planning process.

University

There are potential roles for faculty and students from nearly every department and discipline within the UAB system. This project can provide nearly endless source of research opportunities and opportunities for students to gain experience in their fields in a real-world environment while contributing to the success of the whole, even in the initial stages.

In the initial implementation, there will be a strong need for support from the university in many areas. As part of the long-term vision, nearly every discipline within the university has something to add to the whole. A sample of these areas is shown below:

College or Department	Potential Roles
Medicine, Nursing, Public Health, Health Professions	Develop the processes and procedures and provide the staffing and direction of the telemedicine system.
Engineering and Computer Science	Development of the actual platforms. Design and implementation of software, websites, web services, and cyber security expertise will be required.
Art	Support for the graphical elements of the implementation efforts. In our experience, engineers have more difficulty with the aesthetics than with the technical side.
Business	<p>Business model development and management – this is especially crucial in that the entire project should aim to become as self-sustaining as possible.</p> <p>Finance, accounting, contract development and management, MARKETING (a crucial need for success), entrepreneurial support, and small business incubation. The economic portion of the effort includes both encouraging local startups then nurturing them to self-sufficiency and attracting business from outside the local area to the Birmingham market.</p>
Sociology / Social Work / Psychology	Needs assessment, program success assessment.
Criminal Justice	Law enforcement procedure and strategic planning for the community policing integration with the neighborhood platform.