Smarter Joplin



ROADMAP

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SEPTEMBER, 2019

THE SMARTER JOPLIN DISASTER RESILIENCY INITIATIVE

When the planning team began our work on this Initiative, we had aspirational goals. The City has requested that we explore the use of technology to help implement Joplin's Disaster resiliency efforts, to advance Joplin's future economic development opportunities, while also supporting improved quality of life factors. With that charge from City leadership, we wanted this planning effort to be a roadmap that would transform Joplin to be a place where people would want to live, work and play. A community where entrepreneurs chose to start and grow their businesses, surrounded by like-minded individuals and a strong support system. A forward-thinking City that embraces the technology future and uses it to its advantage. And finally, a place that people are proud to call home and boast about it, whether on social media or over a cup of coffee.

We present this Smarter Joplin Initiative Roadmap to the Joplin City Council with great pride and anticipation that the community will accept our work as a starting point, and will continue to engage all sectors of the City to develop a robust plan that will position Joplin to position Joplin to be more resilient and successful in the technology-driven future that lies ahead for its residents and businesses.

Sincerely,

Smarter Joplin Disaster Resiliency Planning Team

WELCOMES FROM THE MAYOR AND JOPLIN CHAMBER OF COMMERCE PRESIDENT

MAYOR | *Gary Shaw*



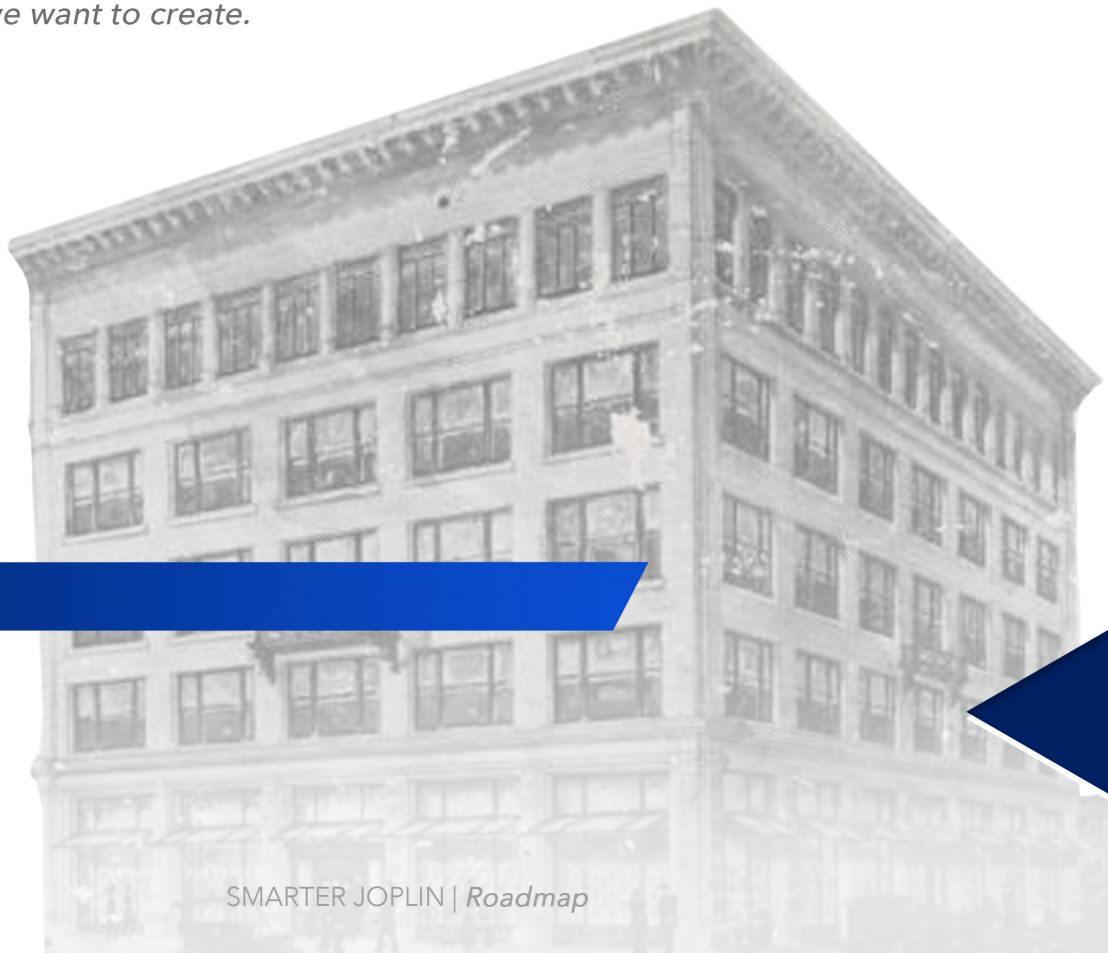
Welcome!

I am thrilled by your interest in this document and our community as a whole. Eight years ago, we experienced the unimaginable from the tornado. We made it out the other side better than we started, but now we need to continue to plan for the future. The rest of the City Council and I are proud to have worked with the City to develop this innovative roadmap.

We found that the values and goals of this Initiative are shared by us, and we are excited to do our part in guiding it. We want to do right by you, the people, and will ensure that as we step into the technology world together, we do so carefully and on our terms. I am proud that this roadmap brought people across the community together to help plan and shape ideas that will be reflected in the lives of our children and grandchildren. We are all working towards the Joplin we want to create.

Sincerely,

Mayor Shaw





JOPLIN CHAMBER OF COMMERCE PRESIDENT | *Toby Teeter*

While I am fairly new in this position at the Joplin Area Chamber of Commerce, I am not new to the Joplin community. This is my home and has been for quite some time. I was chosen as the president of the Chamber because I understand the needs of our business sector and the larger community. The Smarter Joplin Initiative is an important step in the right direction.

Coming from a technology background myself, I have seen the significant value of technology and entrepreneurship first hand. We have closely collaborated with the City during the stakeholder outreach and creation of this document, and plan on continuing to partner with City leaders in the future. We want to make Joplin more attractive to businesses, as well as more attractive to its current residents and those who might be considering moving here in the future, enhancing the City's quality of life through technology, data, and other means is a big part of that plan. Both the City's projects as well as our Chamber's goals reflect that, and with us working hand-in-hand in the same direction, we can accomplish great things to benefit all who wish to improve the City of Joplin.

Best,

Toby
Joplin Area Chamber of Commerce President

EXECUTIVE SUMMARY

BACKGROUND

Technology has forever changed the personal and business lives of people across the world, and the pace of these changes will only continue to accelerate in the future. We can now communicate, gather information, and create insights in ways that were impossible just a few years ago. As these opportunities and expectations rise, cities both large and small are looking for ways to become–

"Smarter Cities"

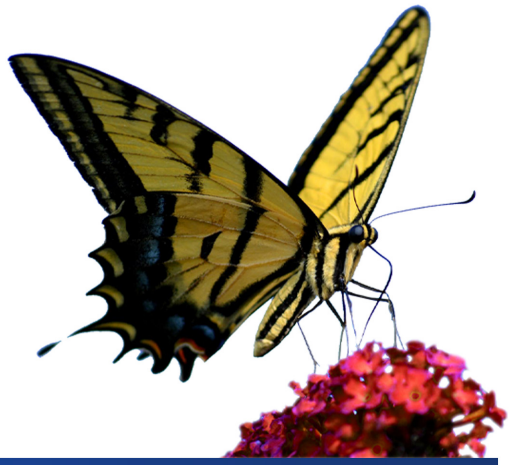
–harnessing technology to create economic vibrancy and deliver superior experiences and efficiency to residents.

PRE AND POST DISASTER

This is particularly relevant to the City of Joplin. Faced with impact of the 2011 disaster, the City has rebounded and rebuilt its community better than before from nearly every major aspect. Yet it must continue to build on its momentum by not just becoming resilient to future disaster events, but also continuing to grow, retain and attract its future workforce, as well as further strengthening its economic development and overall quality of life.

SMART CITIES

In 2015, following an extensive planning process, the Citizens Advisory Recovery Team's (CART) goals, formed after the 2011 tornado, were furthered through the City of Joplin's approval of its disaster recovery Capital Plan which allocated the remaining approximately



$111 million (of a total $158 million provided to the City) of Community Development Block Grant-Disaster Recovery (CDBG-DR) funding from the U.S. Department of Housing and Urban Development. The Capital Plan development process leveraged extensive engagement with community stakeholders to identify and prioritize projects to help Joplin rebuild. The City's Capital Plan and associated projects have led to Joplin's successful disaster recovery program being recognized by federal agencies and industry leaders across the nation. Now that the community's disaster recovery plan is nearly complete, a small portion of remaining grant funding has been utilized for this Smart Cities Disaster Resiliency planning. effort to determine how the City can change its narrative from a place impacted by a tornado to a more resilient community, an economic nucleus and a place people and businesses want to call Joplin "home".

The Smarter Joplin Resiliency Initiative starts with the community and the specifics of what they need, now and in the future. This roadmap document summarizes the findings gleaned from engagement with the community into a vision and core principles to guide Joplin, as well as defining the building blocks for how Joplin can use technology in a safe and responsible way while achieving identified goals. Ultimately, the team identified key areas of focus for Joplin, as well as a series of tangible and transformative projects to address those needs. Taken together, these form a cohesive, Joplin-specific approach to a Smart Cities plan.

EXECUTIVE SUMMARY

SMART CITIES | DISASTER RESILIENCY

This approach will be implemented through the recommended projects. These projects range from immediate priorities (e.g., expanding internet access) to projects that are less feasible now but may be in done in the longer term (e.g., smart transportation system accounting for autonomous vehicles). There are five (5) high priority projects that should be focused on during the first five years of this initiative.

These projects will lay the groundwork for Joplin to become known as a place with a vibrant Downtown, proud of its Americana and Route 66 roots. A place where its students, prospective entrepreneurs and citizens are empowered to form their own businesses and bring prosperity to the area. A place where the business community, education and non-profit organizations, the City and the general public are invested, engaged and proud of their community. In essence, the goal of these projects is to make Joplin a great place to live, and a place of opportunity.

Expanding Internet Access

so that everyone in the region has fast internet to connect in the digital age.

Creating Smart Education and Training Programs

to give Joplin residents the skills they need to be successful in the technology and data-driven future.

Making City Operations More Efficient

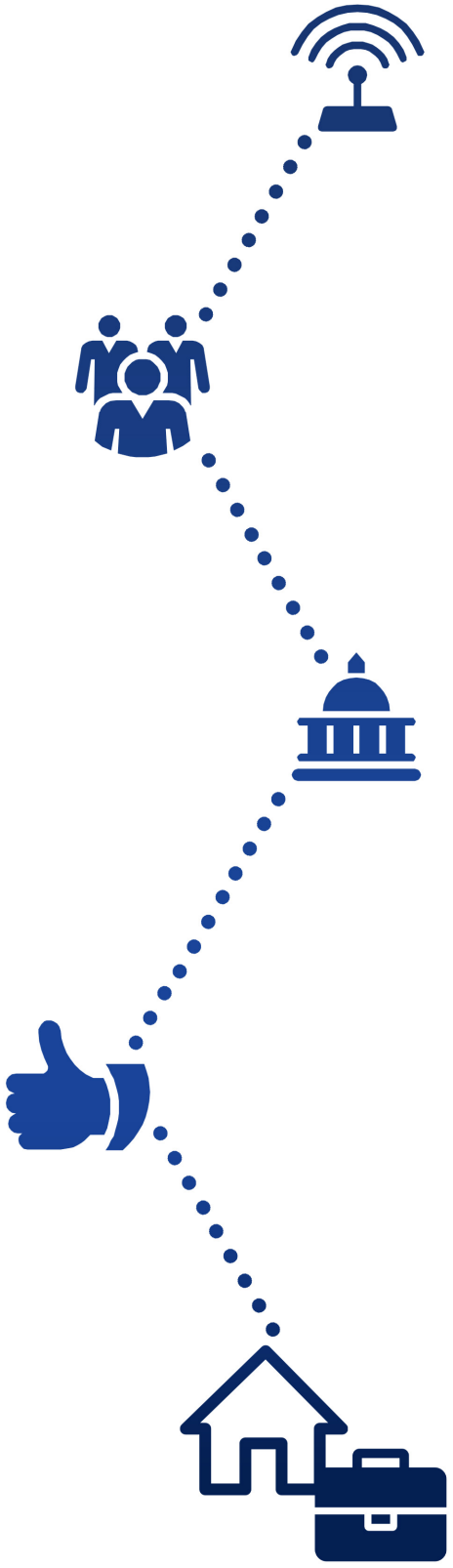
by digitizing City forms and assessing City processes to create a more efficient and streamlined customer centric experience.

Developing a Coordinated Joplin Brand

to improve visibility and communication with the City through the update of the City website, app, and social media presence.

Creating an Innovation District in the City

that transforms an area of Joplin into an economic hub where the "work, live, and play" mindset is embraced and technology, entrepreneurship, and collaboration is supported.



SMARTER JOPLIN DISASTER RESILIENCY VISION



Community and stakeholder engagement feedback loop during and after projects

WHAT SHOULD WE STRIVE FOR

"Grow into thriving, attractive, and resilient community where technology and data are used to enable a high quality of life & robust economic opportunities for all residents, businesses, and visitors."

GUIDING PRINCIPLES

FOUNDATIONAL BUILDING BLOCKS

OPPORTUNITY AREAS

HOW DO WE WANT TO OPERATE

- *Ground actions in community needs*
- *Implement communication feedback loops*
- *Leverage entire community to be successful*
- *Build in equity from the onset*
- *Earn the public's trust*

WHAT IS ESSENTIAL

- *Governance and funding*
- *Privacy and cybersecurity*



HOW DO WE ACHIEVE THE VISION

- *Resident and Business Friendly City*
- *Workforce Availability and Skills*
- *Transportation*
- *Internet*
- *Quality of Life*
- *Resiliency and Sustainability*

PROJECTS

WHAT WILL WE DO

- *Expand Internet Access*
- *Smart Education and Training Programs*
- *More Efficient City Operations*
- *Develope a Coordinated Joplin Brand*
- *Create an Innovation District in the City*
- *Many others in medium and long term depending on opportunity and needs.*

INTRODUCTION



INTRODUCTION

JOPLIN AT A GLANCE

Beginning as a mining town in the mid-19th century, Joplin, located in the southwestern corner of Missouri, is the largest city in Jasper County with a population of 50,657 (2018 U.S. Census estimation). Yet, with a daytime population that swells to nearly five times that, Joplin is the economic center of the Four States Region. The City has evolved into a diverse, modern economy which also includes a recently emerging tech-cluster. The City, as well as the general area, enjoys a low unemployment rate comparatively to the State of Missouri. Joplin current economic outlook and markers for success is almost impossible to imagine given what the the City experienced just eight years ago to-date. However, it is interesting to note that while the City's population has rebounded from a small decline following the 2011 disaster, the rebound has essentially stalled and has flatted-out since 2016/2017.

DISASTER

Joplin and the adjoining area was devastated by a massive EF5 tornado which touched down on May 22, 2011. The tornado cut a path of destruction nearly 13 miles through the heart of the community. 161 lives were lost in the City, making it the deadliest tornado in the world in the 21st century to-date. Thousands of dwellings and hundreds of businesses were damaged or destroyed, with over 30% of Joplin residents being directly affected by the storm. Recovering from such an event was inevitably going to be a difficult process, and the community will forever carry the scars and memories from the tragedy.

RECOVERY

As a testament to what makes Joplin special, the community banded together to recover from the tornado and has bounced back stronger than before. Neighbors helped neighbors, and people from all walks of life, including many from outside the community, pitched in during the immediate aftermath. Per guidance from the Federal Emergency Management Agency (FEMA), the community formed the Citizens Advisory Recovery Team (CART) comprised of residents, business leaders, City staff, and other stakeholders to engage the public and provide a clear path forward. This cross-sector group set a bold vision for the City to be resilient economically vibrant, healthy, and educated.









INTRODUCTION

RECOVERY

In 2015, following an extensive planning process, CART's goals were furthered through the City of Joplin's approval of its disaster recovery Capital Plan which allocated the remaining approximately $111 million (of a total $158 million provided to the City) of Community Development Block Grant-Disaster Recovery (CDBG-DR) funding from the U.S. Department of Housing and Urban Development. The Capital Plan development process leveraged extensive engagement with community stakeholders to identify and prioritize projects to help Joplin rebuild. These Capital Plan projects have helped in the development of a leading disaster recovery program for the City of Joplin, with its successful efforts being recognized by leaders across the U.S. Now that the recovery plan is almost complete, a small portion of the remainder of the grant funding has been utilized for this planning effort to determine how Joplin can change its narrative from a place impacted by a tornado to an economic powerhouse and a place people from all over thenation want to call "home".





WHAT WE ARE FACING TODAY - AND IN THE FUTURE

VALUE AT STAKE

The City of Joplin is at an important crossroads. It has successfully recovered from the devastating 2011 tornado, but recovery has brought to light new challenges which will further impact its future. Joplin needs to become resilient to natural disasters, as well as adaptable and receptive to economic and social changes in the 21st century. Joplin and other cities must address global trends like:

Increasing Urbanization ***and population demographics shift to larger cities***

Scarcity of resources ***and materials across the region***

Rapidly Evolving Technology ***that disrupts industries, businesses, and the general public's daily lives***

Addressing Unique Technology ***needs of different demographic populations, ranging from Gen Z to the Baby Boomers***

Economic Influence of Concentration of Population ***exacerbating inequality***

Joplin's residents and businesses are already experiencing every one of these trends. The community has successfully recovered from the 2011 disaster, but it needs to continually evolve to not only be relevant, but to train and educate our local community, retain our local talent, and attract others to come to live in the future. The City's major industries are not immune to the so-called Fourth Industrial Revolution, which includes the "Internet of Things" sensors, artificial intelligence, autonomous vehicles, 3D printing and Big Data analytics. Joplin is a community that has successfully rebounded from the tornado, but it needs to continually evolve to not only be relevant, but to also be an attractive place for future generations to remain and attract others to come to live. Technology in particular has been a dominant global megatrend that has already demonstrated its power to transform – and disrupt – our daily lives. Imagine how much each of our personal and work lives have changed in the past 20 years due to technology. Practically everyone carries a computer with them at all times in the form of a smart phone. We share our lives and perspectives with each other over social media. Additionally, we have access to virtually any information at our fingertips by searching the Internet, and all of this technology continues to innovate at an exponentially fast pace, making many things in our lives outdated as soon as they are released.

Yet governments across the country are often not equipped to handle these innovations with the capacity and speed required to meet the needs of its residents and business. The public sector is infamous for being slow to change, bureaucratic, and inefficient, and that was established well before smart phones hit the market. Technology has altered resident and business expectations about what a government can and should be able to do, and businesses especially need an enabling environment to assist them in responding more effectively to changes of the marketplace. For the City of Joplin to stand above the pack, it must prove itself to be responsive to these new expectations in order to better serve its residents, businesses, and visitors.







SCARCITY OF RESOURCES
including labor and materials which everyone is competing for

INCREASING URBANIZATION
population demographics shift to larger cities

ECONOMIC POWERS BECOMING MORE CONCENTRATED
in certain areas, exacerbating inequality

RAPIDLY EVOLVING TECHNOLOGY
that disrupts industries, businesses, and the general public's daily lives

ADDRESSING UNIQUE TECH
needs of different demographic populations, ranging from Gen Z to the Baby Boomers



GLOBAL TRENDS





WHY NOW IS THE RIGHT TIME TO ACT

Joplin has the rare opportunity to successfully address these challenging trends. The tornado and similar disaster events throughout the world illustrate the need for great community resilience. Yet to be truly resilient in the 21st century, the City of Joplin will need to be prepared for each of these trends, particularly those that are technology-based. To meet the growing needs of the future, City expenditures need to be more efficient, the City's collaboration with the community's other resources needs to be strengthened, and emerging businesses and industries like the rapidly developing technology cluster, with MSSU, and the medical and dental schools, need to be fostered.



The City has already proven its willingness to work together to make transformations happen. Its residents are aware of its need to evolve and its local leaders are motivated to make changes. Joplin is now at an inflection point to build on its momentum from the recovery to move towards increased resiliency, sustainable economic development, and enhanced quality of life.

SMART CITY





SMART CITY

DEFINITION

Making Joplin a "Smarter" city can help its leaders and residents more effectively address the challenges they face. The term "Smart City" has many competing definitions, but for the purposes of this roadmap we define Smart City to mean:

"Smart City collects, manages, and analyzes data to deliver new and improved services to residents, while promoting local job growth."

The broadness of this definition means that Joplin can shape its approach to fit its unique local needs. This is a powerful point as context is everything when it comes to the success or failure of an initiative. Although lessons may be gleaned from Smart City efforts in other cities, it is paramount that projects selected for Joplin be designed and implemented for specifically the Joplin environment. This roadmap is intended to deliver Joplin solutions for Joplin needs.

WHAT DOES A SMART CITY MEAN FOR JOPLIN

Every city approaches the topic of a Smart City differently. San Francisco, California fosters its technology community with open data and a "Startup in Residence Program" where the government partners with businesses to solve civic issues. Kansas City, Missouri leveraged its partnerships with Google and Cisco to launch a revitalization of its downtown community to create a thriving district that is physically connected by streetcars and also digitally via the Internet and networked sensors. New York City, with millions of people, has multiple applications devoted to transportation to help relieve its gridlock traffic and improve public safety.

Smaller cities are also developing their own Smart City approaches. For example, Ammon, Idaho uses its City-owned fiber network to spur economic development. Seat Pleasant, Maryland partnered with IBM to create its own one-stop shop City service app. Finally, Branson, Missouri is working to deploy digital kiosks which offer digital touchscreens coupled with City services and possibly publicly accessible Wi-Fi in various strategic locations.

All of these cities are trying to be more resilient, improve their quality of life, advance economic development, and increase city operational efficiency. There is nothing preventing Joplin from joining them. In fact, Joplin has the opportunity to learn from their examples and understand what would apply best for them. Joplin's leaders and business community can look for Smart City approaches that fit this community's unique needs, scale and budget. Because funding and manpower are always limited, Joplin will need to focus on a select number of high-value projects, prioritize its efforts and then build from there.

SMART CITY

HOW A SMART CITY CAN HELP

Smart City projects have a wide variety of applications. They typically use the physical, built environment of the City and deploy technology to collect or communicate data and/or information. Such projects can range from 10 feet below the ground with fiber optic lines delivering our internet to streetlights that can host sensors to collect data that can be used by public works to determine where floods are happening, collect data on gunshots, energy consumption, etc. This data is crucial for informed decision-making and enabling cities like Joplin to ensure that limited resources are being utilized efficiently. In addition to these physical projects which involve the deployment of sensor technology, there are also many digital projects that could be considered a Smart City initiative. For example, an updated website, digital forms, or predictive analytics are all potential Smart City topics that support resiliency and qualitative decision making.

There are infinitely many possible projects that Joplin can choose from, so prioritization is key.

The graphic below re-imagines the City with Smart City projects driving improved quality of life factors, disaster resiliency initiatives and supporting and supporting economic development in various ways:



METHODOLOGY

SCOPE OF ANALYSIS

The Smarter Joplin Initiative is focused on improving the quality of life for Joplin's residents, supporting future economic development, and enhancing the community's resiliency using the technology and data lenses of a Smart City. Through this Initiative's planning process, related topics like affordable housing, land use planning, and active transit (e.g., walking and biking) had arisen during interviews with the Joplin's leaders and residents. These topics require deeper policy conversations between the City and community. A list of topics like those centered on social issues that arose during the community outreach will be provided to City leadership since for Joplin to truly achieve its goals, they must be part of its future.

ACTIVITIES

A great deal of effort has be undertaken over the past nine months by the planning team towards this Initiative. Interviews were held with all City department heads and over 40 stakeholder groups across the private and non-profit sectors to gain a better understanding of Joplin-specific challenges and areas of opportunity. These interviews were supplemented with document reviews and leading practices research of domestic and international cities of all sizes. The City also attended and presented at the 2019 Smart City Conference in Denver to hear more about what cities all over the USA and globally are doing in this arena, a City representative spoke on a panel at the Conference about how Joplin's recovery process has progressed and how a Smart Cities approach is being integrated into the recovery plan.

All of these activities served as inputs for two workshops with City staff. In these two workshops, Smart City concepts were discussed and multiple project-related exercises were conducted. These exercises were focused on Smart City solutions, prioritization, and validation of core values, vision, and goals to keep in mind during Joplin's Smart City journey. These steps were all important to understand the City's perspective, yet the primary purpose of these workshops was two-fold: [1] educate the City on potential approaches to address resident and business needs and [2] inform the Smarter Joplin Initiative planning team on the City staff's perspective of community needs. Once the team heard from the City department heads, the next important step was to solicit feedback from the community.



COMMUNITY OUTREACH OUTPUTS

COMMUNITY OUTREACH

Community outreach to undertake comprehensive stakeholder engagement was at the heart of this Initiative planning effort. Understanding the needs of Joplin's residents, as well as its businesses, representing a diverse set of backgrounds, was crucial to guide the City's Smart City Initiative direction.
One-on-one interviews were held with community leaders, business owners, education/academia, high school students and seniors, and non-profit organizations. Two (2) focus group sessions were held with local high school students and one (1) was held at the Senior Center. At the completion of the interview stage of the community outreach, one (1) external stakeholder workshop was held in partnership with the Joplin Area Chamber of Commerce (JACC) at the disaster recovery funded Advanced Training and Technology Center. This workshop crystallized six opportunity areas identified by these community leaders, as well as provided ideas for guiding principles and prioritized projects.

Following the external stakeholder workshop, three (3) open houses were then held for the general public; these open house events allowed attendees the opportunity to provide feedback, comments and additional ideas on the proposed opportunity areas. Extensive public awareness campaigns for the open houses were promoted across a number of media platforms including social media, newspapers, television, flyers, and a booth at one (1) of Joplin's Third Thursday events. The open houses were also live-streamed via the City's Facebook site with numerous individuals participating in the on-line event. Citizens were also able to provide feedback via an online poll, email, telephone, social media, and written comments during and following the open houses.

The Initiative's planning team was impressed with the strong interest expressed by a wide array of community leaders, residents and the business sector in implementing proposed projects of a Smarter Joplin Initiative. Based on the feedback received during the stakeholder engagement process, as well as observing best practices from other cities' work, Smarter Joplin should be a community and people-focused initiative which embeds this Joplin feedback into its implementation process.









COMMUNITY OUTREACH RESULTS

WHAT WAS HEARD

The community outreach phase of the Initiative reached hundreds of people throughout the community, and hundreds of inputs were provided. In total, the Initiative received over 700 ideas or points of feedback gathered from the stakeholder interviews and respective workshops, the Third Thursday booth, and Open House events. The word cloud to the lower-right was generated from those inputs from public venues which highlights some of the most common topics raised by the community. The opportunity areas for the City were derived from the 1-on-1 interviews, but the word cloud helps illustrate the thoughts of the community. Some things immediately become apparent such as Wi-Fi or internet access. Workforce mobility, trails, roads, the trolley, and other numerous transportation related comments came to the forefront. Ideas about public and city amenities are present as well. And a more focused effort on workforce training and expanding technology education was strongly voiced. However, the most common word across all of the inputs is quite simply "Better." Smarter Joplin is about being better at just about everything. Operating more efficiently, serving the needs of the residents and businesses, adapting to changing times; it is all about Joplin being better equipped and prepared for the future. In some cases, equipped, prepared for the future and ultimately being more resilient was important to acknowledge 'the future' is already here today, present now in communities around the country, including Joplin. From all of these inputs as well as the feedback heard from countless interviews and workshops, we distilled many supporting artifacts such as the Smart City vision, guiding principles, foundational building blocks, opportunity areas, and projects to help make Smarter Joplin become a reality.





* 3 public oen houses, 1 Third Thursday, 1 Senior Center workshop, 1 workshop with Joplin High School, 1 workshop with Tomorrow's Leader's Today, and 1 workshop with community leaders

COMMUNITY OUTREACH RESULTS

SMARTER JOPLIN VISION



The Smarter Joplin Disaster Resiliency vision statement for the City to position itself for future success and what it should aspire to achieve. Getting there is not going to be easy – it will take a focused effort by both the public and private sectors, yet it is undeniably worth the investment to work towards laying the foundation for a more successful future for Joplin. After conducting research on many other cities and testing this vision at one of the City workshops, the proposed vision for the Smarter Joplin Initiative is:

"Grow into a thriving, attractive, resilient community where technology and data are used to enable a high quality of life and robust economic opportunities for all of our residents, businesses, and visitors."

The above vision is meant to be conceptual and can be adapted along the journey. The heart of the vision should carry through to the City's Smarter Joplin Initiative guiding principles, foundational building blocks, opportunity areas, and projects.



COMMUNITY OUTREACH RESULTS

GUIDING PRINCIPLES

Guiding principles are values that will aid the community's decision-making for the Smarter Joplin Initiative as it moves forward. We developed these principles based on the stakeholder outreach/interviews, following workshops and subsequent open houses. Each of these principles should be considered while planning, prioritizing, selecting, implementing, and evaluating any of the Initiative's projects.

1

GROUND ACTIONS IN COMMUNITY NEEDS | The premise of the Smarter Joplin Initiative is not to deploy technology for technology's sake. The Initiative must be grounded in the needs of the community and to make sure that projects are selected that reflect the prudent use of resources and addressing the correct community needs.

2

IMPLEMENT COMMUNICATION FEEDBACK LOOPS | This community outreach process has informed the Smarter Joplin Initiative team that the community is eager and excited to be involved in future efforts. Their thoughts and ideas made this roadmap possible. This communication channel should not be a one-time thing. There should be opportunities along the way of project implementation for the community to voice their needs and concerns, as well as allow their involvement when possible/appropriate.

3

EARN THE PUBLIC'S TRUST | Whether for privacy, cost-effectiveness, cybersecurity, or other considerations, these projects must be in lock step with the community's expectations. Therefore, projects must be people-focused and outcome driven, with integrity and transparency throughout their entire lifecycle.



BUILD IN EQUITY FROM THE ONSET | It is important to consider equity and inclusiveness to project benefits as essential to a project's selection/outcomes. Projects cannot exclusively benefit some groups to the exclusion of others.

4



LEVERAGE ENTIRE COMMUNITY TO BE SUCCESSFUL | Smarter Joplin does not solely rest on a single entity, it needs to be much bigger than that; the entire community should be involved to support success. Only with the collective backing, expertise, and support from the diverse stakeholder sectors involved will this Initiative be successful. When appropriate and possible, 'community' should include stakeholders from the greater Joplin region as many topics involving Joplin go beyond the City's formal boundaries. The City should continue working with other municipalities, utility companies, education/academia, and private stakeholders to ensure seamless experiences.

5

COMMUNITY OUTREACH RESULTS

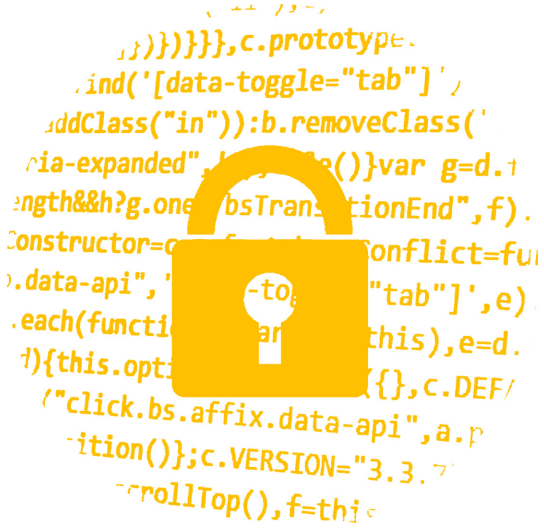
FOUNDATIONAL BUILDING BLOCKS

The Initiative's foundational building blocks are recommendations that the team gleaned from the community outreach as well as our learnings from other cities. In a sense, they build the necessary infrastructure for the Smarter Joplin Initiative to properly scale and be successful. On their own, completing them will not bring direct benefits, but they apply to any and all projects that will be implemented by the Initiative. These recommendations have been grouped into two categories:



GOVERNANCE AND FUNDING

Developing the structure and communication channels to ensure that projects have the appropriate oversight and support.



PRIVACY AND CYBERSECURITY

Critical components to any technology or data implementation. Appropriate levels of privacy must be maintained and cybersecurity is essential.

COMMUNITY OUTREACH RESULTS

OPPORTUNITY AREAS

These six opportunity areas were extracted on the community outreach and interviews, stakeholder workshops, and general public open houses. These opportunity areas consistently arose as critical needs of the community time and time again. They represent specific focus areas or priorities that those who participated in this planning process believe that Joplin should pursue. The opportunity areas are distinct but intertwined as a given project may support one or multiple areas. The six opportunity areas are:



OPPORTUNITY AREAS

COMMUNITY OUTREACH RESULTS

OUR RECOMMENDED PROJECTS

There are many different Smart City projects that Joplin could pursue that will ultimately satisfy their goals for developing a more resilient City. From prioritization workshops with both City staff as well as community leaders, five projects were designated as high-value priorities. These five projects were individually discussed and brought up a number of times by various individuals during the interview phase, and further validated by the open house attendees. Please note that other projects can still be pursued. For Joplin to be successful, these recommended projects should be considered and focused on first as they represent the core objectives of those that participated in this planning process. However, Joplin should continue to be opportunistic when it comes to other projects and consider those employing a similar framework and guiding principles when the situations are more favorable (e.g., being awarded a large federal grant to do a specific type of work or a private entity that would like to enter into a partnership with the City).



1. **EXPAND INTERNET ACCESS** – Expand Joplin's access to the internet by identifying coverage gaps, business and public needs, as well as financial and education gaps. *Opportunity area(s) supporting: Internet, Quality of Life, Resiliency & Sustainability*

2. **SMART EDUCATION AND TRAINING PROGRAMS** – Expand technology/data, resiliency, and entrepreneurial focused programs (e.g., computer programming), apprenticeships, mentorships, and training in schools and workplaces. Collaboration with the JACC, Missouri Southern State University (MSSU), and existing workforce centers like Joplin Advanced Training and Technology Center (ATTC), Workforce Investment Board (WIB), and the Franklin Technology Center could be explored to reach an expanded workforce talent pool. *Opportunity area(s) supporting: Workforce and Resiliency & Sustainability*

COMMUNITY OUTREACH RESULTS

OUR RECOMMENDED PROJECTS

3

MORE EFFICIENT CITY OPERATIONS – Create customer centric experience by streamlining online City processes and workflows, as well as digitize forms and applications/permits to better support businesses and residents through more efficient response times and increased transparency. Platforms could be linked with other City applications like See-Click-Fix. *Opportunity area(s) supporting: Resident & Business Friendly City*

4

COORDINATED JOPLIN BRAND – Use digital tools (website, See-Click-Fix, social media) to support improved Joplin branding/marketing (particularly the website) – both for external purposes (e.g., business and talent attraction, tourism) and for local residents (e.g., improved recognition of Joplin opportunities). Branding should be harmonized and coordinated across the City. Technology-focused tools can also improve communication between residents and City and empower citizens to have more of a voice. These goals can be accomplished by enhancing usability of City of Joplin website and expanding use cases of See-Click-Fix app to include more features like relevant City information, neighborhood, school, trolley data, guides to use during a disaster and for general City services, City-required business forms, economic development information, data maps, etc. Features that support positive health activities can be included as well. It was also suggested on numerous occasions that the website or app should support a forum for citizens / businesses to make suggestions for improved City operations and citizen feedback. These digital channels can serve as platforms for stakeholders throughout the City to display information or events. *Opportunity area(s) supporting: Resident & Business Friendly City, Transportation, and Resiliency & Sustainability*

5

INNOVATION DISTRICT – Identify an area of Joplin (e.g., Downtown, a portion of Main Street, and other potential areas) to support the establishment of start-up businesses assisted by technology to encourage entrepreneurship and drive new job creation and added economic development. Such development could also support existing business and/or encourage the establishment to new clustering ventures. The District would need to be connected from an internet and transportation perspective so that all qualified participants can have access. *Opportunity area(s) supporting: Quality of Life, Internet, Transportation, and Workforce*

IMPLEMENTATION ROADMAP



SMARTER JOPLIN INITIATIVE STRATEGY

STRATEGY ELEMENTS

Synthesizing all of these elements leads to our recommended Smarter Joplin Initiative strategy: a bold and transformative approach to advancing economic development and enhancing the quality of life in the City.

HOW THIS WILL TRANSFORM JOPLIN

The Smarter Joplin Initiative strategy will guide Joplin along its evolution from a core stop along Route 66 to relevancy on the internet highways of today. If the strategy is fulfilled, the City can ascend to new heights and become known for its achievements:

- Disaster Resilient City
- Fast internet for everyone
- Global Leader in Resiliency Technology
- Vibrant Americana Downtown
- Region-wide engagement and Collaboration
- Home-grown Startup Businesses from Innovative, Entrepreneurial Students
- Working with Government is simple, intuitive, and a transparent platform and facilitator for others
- People are Civically involved, Empowered with Information, and Proud of their Community
- Connected with one another with Variety of Transit options and the Internet
- This is a place to be, a place of opportunity

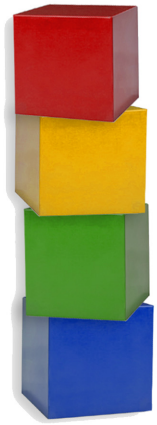


SMARTER JOPLIN INITIATIVE STRATEGY

STRATEGY ELEMENTS







PROJECTS

Community and stakeholder engagement feedback loop during and after projects

WHAT SHOULD WE STRIVE FOR

"Grow into thriving, attractive, and resilient community where technology and data are used to enable a high quality of life & robust economic opportunities for all residents, businesses, and visitors."

HOW DO WE WANT TO OPERATE

- *Ground actions in community needs*
- *Implement communication feedback loops*
- *Leverage entire community to be successful*
- *Build in equity from the onset*
- *Earn the public's trust*

WHAT IS ESSENTIAL

- *Governance and funding*
- *Privacy and cybersecurity*

HOW DO WE ACHIEVE THE VISION

- *Resident and Business Friendly City*
- *Workforce Availability and Skills*
- *Transportation*
- *Internet*
- *Quality of Life*
- *Resiliency and Sustainability*

WHAT WILL WE DO

- *Expand Internet Access*
- *Smart Education and Training Programs*
- *More Efficient City Operations*
- *Develope a Coordinated Joplin Brand*
- *Create an Innovation District in the City*
- *Many others in medium and long term depending on opportunity and needs.*

IMPLEMENTATION ROADMAP

FOUNDATIONAL BUILDING BLOCKS

In addition to working towards the implementation of the prioritized and selected projects, there are several foundational and cross-cutting recommendations that the City should pursue. These building blocks will support all Smart City projects, and will provide a solid base for the City to work from when making their decisions. These recommendations come primarily from our leading practices research of other Smart City approaches around the USA and world, as well as input from the stakeholder interviews here in Joplin.

These foundational building blocks are essential for Smarter Joplin success. Without a proper governance structure, the Initiative will be challenged by the typical silos that exist at all levels of government. As a collaborative Initiative to its core, governance must be established early on. Equally essential is funding. Projects and Initiatives without funding sources for both capital and operating costs fail to be sustainable.

Privacy and cybersecurity are two pillars of technology that go hand in hand. Privacy refers to collecting an appropriate level or resolution of data that the public is content with. Counting foot traffic is one thing, but using facial recognition across the City is quite another. Cybersecurity is focused on keeping that data secure from hacks. Across both the public and private sectors, cybersecurity must remain a top priority above all else to keep our data safe.

All recommendations that have been developed are proposed to be tasks to be executed within the first few years of the Initiative and generally do not require extensive hard deployment costs beyond committing labor hours for research and collaboration. Therefore, each recommendation has been assessed by level of effort to aid in its prioritization.



IMPLEMENTATION ROADMAP

GOVERNANCE AND FUNDING



CREATE | a centralized, cross-departmental body within the City to eliminate administrative and operational silos, as well as to identify, fund, and execute projects (both those that cross City departmental lines and involve Public-Private Partnerships), share learnings, and identify new uses for existing assets. | Level of effort: low

COLLABORATE | with a lead external entity (e.g., Joplin Area Chamber of Commerce) to form external working committees consisting of business, academia, local experts, and the public to assist in developing, designing, and implementing proposed solutions. | Level of effort: medium

LEVERAGE | leadership support to make it clear that using technology to improve services and implementing these projects are high priorities and all City departments are expected to deliver upon this collaborative goal; project leads and supporters will need to be allocated time in order to be able to own their tasks. | Level of effort: low-medium

DEVELOP | clear data standards (particularly for geospatial data such as addresses) available for public and vendors to review for interoperability and consistency. | Level of effort: medium

MEASURE | performance and report project outcomes to City leadership and the public to increase transparency and demonstrate success through return on investment or value to stakeholders. | Level of effort: medium-high

USE | Public-Private Partnerships to facilitate the implementation of certain projects. Proposed project ownership structures will drive decisions related to funding and procurement mechanism decisions. | Level of effort: medium-high

TRACKING | Be vigilant in tracking funding opportunities either through partnerships or through grants. Congress and federal agencies are constantly proposing various way to support state and local initiative, such potential opportunities need to be continuously monitored. | Level of effort: low-medium

IMPLEMENTATION ROADMAP

PRIVACY & CYBERSECURITY



DEVELOP | strong privacy policies and procedures (P&Ps), and implementing such P&Ps early in the process to establish buy-in and promote consistency to help guide Smart City deployments. | Level of effort: medium

CREATE | a privacy self-assessment for technology project implementers to understand the data collected, determine how the data is to be used, and assess potential privacy impacts. | Level of effort: medium

CONDUCT | continued proactive community outreach with the general public about potential Smart City projects, then engage those citizens to understand their thoughts and concerns before deploying those projects (e.g., sensors, facial recognition) that potentially track personally identifiable information (PII). | Level of effort: medium-high

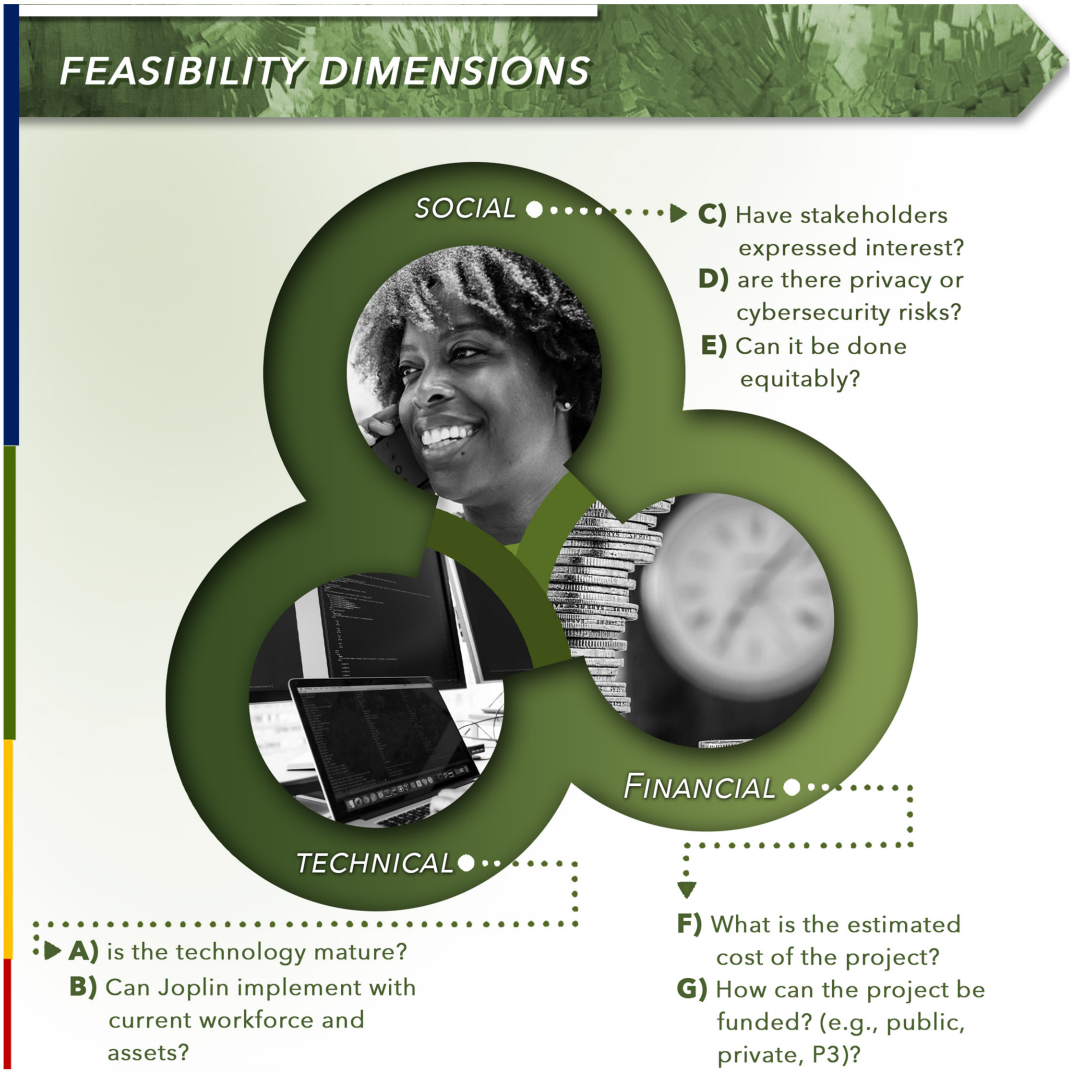
CENTRALIZE | Centralize cybersecurity activities to help make sure that the entire technology environment is protected with a cohesive strategy. | Level of effort: medium

FORM PRIVACY AND CYBERSECURITY COMMITTEE | with appropriate experts to help develop policies and bring potential critics into the process in an effective manner. | Level of effort: medium

IMPLEMENTATION ROADMAP

GETTING IT DONE

Following the completion of the Initiative's extensive stakeholder outreach process, both with the community leaders and City of Joplin department heads/staff, five (5) projects were designated as top priorities from an initial set of 22 distinct projects that were evaluated and prioritized. These 22 projects were the culmination of hundreds of potential project ideas emanating from research and the stakeholder engagement. From those 22 projects, 11 projects required further investigation to assess their feasibility of implementation based on the prioritization rankings. The purpose of the feasibility studies was to determine a recommended sequencing and considerations for these projects with the current information available. From those 11 project feasibility studies the five (5) high priority projects were designated as short and medium term projects due to their potential for being quicker transformational wins for the City.



Feasibility of each of these 11 projects was assessed through three dimensions.

Technical Feasibility *based on the technology involved and the Joplin workforce that would implement the project*

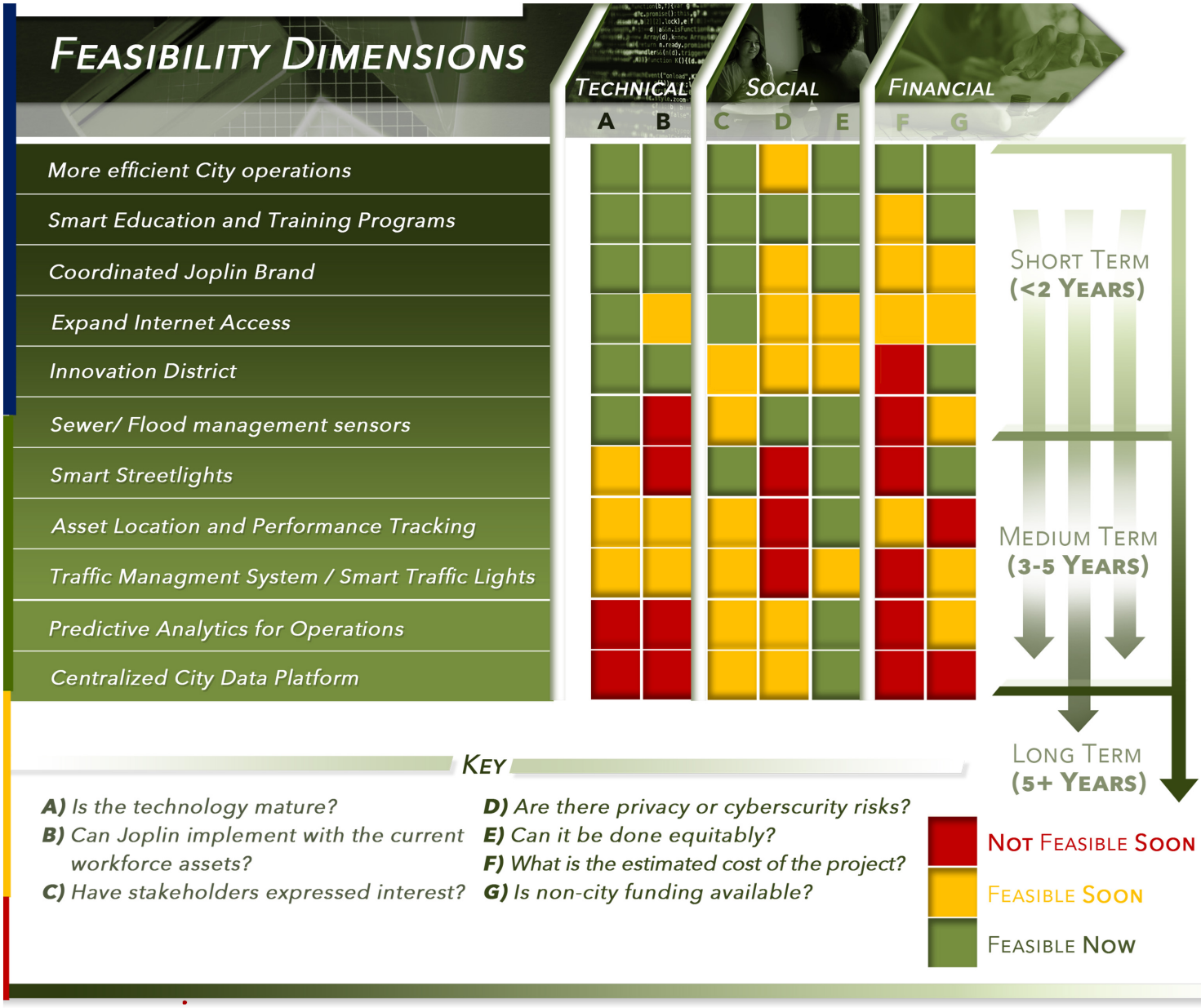
Social Feasibility *based on interest in the community, privacy and cybersecurity risks, and equity considerations*

Financial Feasibility *based on estimated costs and possibility for additional funding beyond city means*

The results of the feasibility studies for these five projects are outlined on the following pages; the remainder of the feasibility studies are included in the appendix. Projects that appeared more feasible across the three dimensions were sequenced in the short term and vice versa for projects that are less feasible.

Using the feasibility criteria, each of the projects was sequenced as short, medium, and long-term projects. Short-term projects are ones that can be completed within a few years while medium-term projects may extend further. Long-term projects may require significant funding or depend on a specific technology to mature in order to be feasible. When the City of Joplin reviews and iterates this roadmap in the future, it should re-evaluate to determine if longer term projects have become more feasible, or if there are new projects that could be high priorities for the community.

TOP 11 PROJECTS



EXPAND INTERNET ACCESS

PROJECT DETAILS

DESCRIPTION | Expand access to internet whether by developing privately-owned fiber networks, promoting enhanced City-owned fiber network(s), or other means (e.g., digital kiosks) to provide greater access for our businesses especially during a disaster or an emergency. Recommended first-step is to conduct an Internet Access Study to evaluate the true availability landscape in Joplin.



YEAR 1 STEPS

1. Conduct studies to understand existing gaps in internet access in the City or greater region and develop master fiber plan for the City (or region).
2. Identify potential areas for deployment based on public Wi-Fi needs and/or strategic areas of high foot traffic (e.g., downtown, medical school, trolley stops, etc.)
3. Investigate whether there are any privacy concerns in the selected areas.
4. Determine how much capital cost can be invested to determine revenue share split for kiosks
5. Procure vendor, deploy a few kiosks, and scale.
6. Continue working with telecommunications and utility firms to rollout fiber and 5G as well as have disaster protocols in place and understood throughout community.
7. Deploy public Wi-Fi through digital kiosks and/or other means.

KEY STAKEHOLDERS

- *Joplin Department of Public Works*
- *Liberty Utilities*
- *Telecommunications firms*
- *Joplin Department of Planning, Development & Neighborhood Services*
- *Joplin Business Community (e.g., Joplin Chamber of Commerce, community lead)*
- *Joplin Department of Information Technology*
- *Joplin Convention & Visitors Bureau*
- *Joplin City Attorney's Office*



EXPAND INTERNET ACCESS

PROJECT DETAILS | BENEFITS

RESIDENTS | Provides access for people without or who cannot afford fast internet, essential for business and educational purposes.

BUSINESSES | Faster speeds allow businesses to focus on their core service offerings more efficiently. It can also enable remote working which can improve flexibility and quality of life of employees. Local businesses can also use the digital kiosks as another means to advertise their business to the community's residents and also tourists. Digital kiosks can also provide internet hot spots, wayfinding, or trolley schedule information to passersby.

CITY | Improved communication channels throughout the community with redundancy built in will increase public safety and resiliency during times of disaster as well as support economic development. Digital kiosks can collect valuable foot traffic or other economic development data for the City as well as disseminate information (e.g., alerts) to nearby people. Joplin can also use ads to promote its brand and tourism opportunities on digital kiosks in Kansas City, Missouri, Branson, Missouri and/or other cities.

CONSIDERATIONS

The City of Joplin does not currently have a wide network of municipal fiber or conduit, and managing a municipal internet takes in-house skills and additional funding.

Having numerous internet service providers can improve/expand service levels/offerings, thus supporting competition is important to achieve identified outcomes.

Other technologies may be used to complete the "last mile" of broadband service, but a fiber backbone will still be required to accomplish expanded Internet access.

An in-depth connectivity study is required initially required to determine gaps in access.

The City has adopted a small cell ordinance and is currently implementing fiber agreements with telecom entities for Right of Way (ROW) fees.

Funding generated as a part of this effort can be earmarked for future digital inclusion or Smart City projects, positions, or studies.

Each kiosk needs to be connected to fiber and power to be able to function.

Kiosks will need to be strategically placed in either areas of high foot traffic or priority locations (e.g., trolley stops to provide times or places to deploy public Wi-Fi).



ESTIMATED COST

A private internet model, similar to Kansas City, Missouri, could be cost-effective for the City as it negotiates with its assets. Those models are cost neutral, but require buildout from the private sector. A municipal model could cost around $50M (based on the cost of municipal networks in other cities). For the kiosks, capital costs for Branson ranged from $27,575 - $39,675 depending on the type of kiosk with a moderate operating cost of a few hundred dollars; yet advertising revenues should cover the costs (hard and operational) of the kiosks.

LIKELY FUNDING SOURCE(S)

Some options include bonds, grants, private funding and each option will take time to apply and successfully acquire. For the kiosks, based on meetings with Kansas City, Missouri, it is believed that capital cost could be made up through ad revenue, with 50% of the revenue going to the City and the other 50% going to the vendor if the City can pay capital costs. If for example this arrangement or structure is not possible to Joplin, the City could enter a 25% revenue share agreement.

SMART EDUCATION AND TRAINING PROGRAMS

PROJECT DETAILS

DESCRIPTION |
Create/expand technology and entrepreneurial focused programs (e.g., coding courses), apprenticeships, mentorships, and training opportunities in schools, workplaces, and centers like the Advanced Training and Technology Center (ATTC) or Franklin Technology Center (Franklin Tech). The trainings can also include resiliency, sustainability, and energy-related jobs.

YEAR 1 STEPS

1. Work with Joplin-area employers to assess the current and expected workforce skills that are (and will be) needed.
2. Develop/implement workforce training courses to provide students and adults, as well as connect to the employers in need.
3. Develop/implement enhanced workforce development plan to encourage potential talent to re-enter the formal economy.
4. Develop and implement promotion/communication plan to inform various stakeholders of program opportunities.

KEY STAKEHOLDERS

- *Joplin Area Chamber of Commerce*
- *Joplin area schools (MSSU, Joplin High School, etc.)*
- *Missouri Department of Economic Development*
- *Joplin Area Businesses*
- *City of Joplin*

SMART EDUCATION AND TRAINING PROGRAMS

PROJECT DETAILS | BENEFITS

PEOPLE | Equip people within the City with the skills they need to be successful in the workforce. Also empowers them to create their own businesses. Connects people to higher paying jobs.

BUSINESSES | Trains and develops suitable talent for our businesses and ideally helps attract new talent to Joplin. Creation of the new tech-based and other related start-up enterprises can have a cluster-effect to support other currently existing businesses and make Joplin's economy more resilient.

CITY | Growth of talent and businesses will increase the prosperity of the City. Fostering an entrepreneurial culture will spur economic development throughout the City.

CONSIDERATIONS

The Joplin Area Chamber of Commerce's involvement is important to continually articulate needs of the business community (e.g., technology, professional services, health, manufacturing, commercial driving). The Chamber's strategic plan outlines numerous initiatives that can be supported to further enable this project

Close coordination with existing resources/efforts (e.g., Franklin Tech, ATTC and the Workforce Investment Board) which currently work with businesses to identify workforce needs and train individuals/student.

Identify additional existing State and Federal resources (e.g., free open online courses, etc.) to compliment the development/implementation of additional Joplin-area programs.

Strong focus on junior and high school students to establish understanding of opportunities of such programs, and encourage participation when possible.

Private sector must be involved in training programs via mentorships, apprenticeships, and internships to create successful career pathways.

Must ensure all qualified program applicants have access and account for barriers (e.g., transportation, child care, age gap); need to expand and/or increase awareness of program opportunities.

Programs need to include both soft and hard skill training for adults that match businesses to potential employees.

Educational or financial programs specially focused on vulnerable population demographics, including minorities and women who should be included in order to support diversity. Outreach to military veterans should also be a very high priority for the programs.



ESTIMATED COST

It depends on the breadth of the rollout. Colleges and other organizations have received grants to develop similar workforce programs, and in many locations the private sector underwrites such costs.

LIKELY FUNDING SOURCE(S)

Lots of federal STEM funding exists. Department of Education has numerous programs with large budgets funded and related to STEM: Career and Technical Education ($1.3B budget), Student Support and Academic Enrichment Grants ($1.1B), Education Innovation and Research ($130M), and Minority Science and Engineering Improvement ($11M). The National Science Foundation also has numerous programs that could assist with this project: Education and Human Resources Directorate ($910M), Advanced Technological Education ($66M), and additional fellowships and scholarships. NASA has some fund through its Office of Education ($110M) and another $45M specifically for education and public outreach. The Department of Defense's National Defense Education Program has a budget of $136M. The EPA also has a grant available for environmentally-focused workforce training. In addition to these public options, the private sector could provide staff time (e.g., via startup in residence program), and re-aligning current education and training efforts on technology, data analysis, health, etc. could also assist in supporting such programs.

MORE EFFICIENT CITY OPERATIONS

PROJECT DETAILS

DESCRIPTION |
Streamline online City forms, processes, and applications/permits, as well as provide other appropriate City services not currently online. Such online processes could integrate the use of algorithms to identify similarities or duplications in City functions, then appropriate operations could be linked/reorganized/consolidated to reduce administrative labor, lower City operating costs, and/or improve City's response time.

YEAR 1 STEPS

1. Catalog forms in need of digitizing.
2. Prioritize forms for digitization with feedback from Joplin Chamber of Commerce.
3. Procure vendor for digitization based on forms and requirements.

KEY STAKEHOLDERS

- *Joplin Department of Information Technologies*
- *All Joplin Departments*
- *Joplin Area Chamber of Commerce*





MORE EFFICIENT CITY OPERATIONS

PROJECT DETAILS | BENEFITS

PEOPLE | Offers one-stop shop for City services online and make it easier to submit permits, applications, etc.

BUSINESSES | Improves ease of doing business with the City with the one-stop shop concept. Could give the ability to track progress of applications, giving more transparency to businesses. Should make processes easier to understand and more open.

CITY | Increases efficiency of processing forms and/or responding to requests by City staff. Reduces administrative costs by putting forms online and editable. Can be more efficient with data collection with inputs are done electronically as opposed to a handwritten or non-editable PDFs. Having a digital version of all these forms, permits and applications will also be useful in the event of a disaster as it would provide easy readily available access to required/essential resident information.

CONSIDERATIONS

The number of City forms to be converted would need to be identified and prioritized.

Appropriate City services to also be offered online would need to be identified and prioritized .

Beyond putting forms online with the ability for data entry, there is the potential to conduct business process re-engineering studies to streamline operations.

Some paper forms would likely still need to be maintained for populations without computers and/or for preferred non-online activity.

Proactive communications, socializing and testing of the forms and other activities with City staff, citizens, and businesses prior to "official roll-out" will be important to make sure the process is actually easier for them.

It will be important to ensure that all the systems and databases are linked for shared services/ bill collection/ registration etc.

An analysis of City services and identification of consolidation potential can be conducted.



ESTIMATED COST

Estimated annual cost to digitize forms for Joplin is between $5,000 and $10,000 based on pricing data from 5 cities and counties around the U.S. Can be near $0 if no-cost contracting agreement is entered. Cost to catalog forms or review City processes would require labor hours

LIKELY FUNDING SOURCE(S)

Form digitization is an opportunity for no-cost contracting where the vendor is paid through fees when the citizen uses the vendor's service to pay the government. In addition, the Missouri State Secretary offers a grant for record management and Code for America has automated forms for other public entities.



COORDINATED JOPLIN BRAND

PROJET DETAILS

DESCRIPTION | Use digital tools (website, See-Click-Fix, social media) to support improved Joplin branding (particularly the website) – both for external purposes (e.g., business and talent attraction, tourism) and for local residents (e.g., improved recognition of Joplin opportunities). Branding should be harmonized across the City. These tools can also improve communication between residents and City and empower citizens to have more of a voice. Accomplish this by enhancing usability of City of Joplin website and expand use cases of See-Click-Fix app to include more features like relevant City information, neighborhood, school, trolley data, guides to use during a disaster and for general City services, City-required business forms, economic development information, data maps, etc. Features that support positive health activities can be included as well. It was also suggested on numerous occasions that the website or app should support a forum for citizens / businesses to make suggestions for improved City operations and citizen feedback. These digital channels can serve as platforms for stakeholders throughout the City to display information or events.

YEAR 1 STEPS

1. Develop promotion/marketing plan to encourage resident and business use of website and app.
2. Co-create Joplin brand/messaging with Chamber of Commerce and Convention & Visitors Bureau (C&VB).
3. Work with current vendors to identify potential feature add-ons to website and app.
4. Identify if any updates to See-Click-Fix app are required.
5. Prioritize features across both tools.

KEY STAKEHOLDERS

- *Joplin Office of Public Information Officer*
- *Joplin Department of Information Technologies*
- *Joplin Convention & Visitors Bureau*
- *Sunshine Lamp Trolley & Metro Area Paratransit System (MAPS)*
- *All other Joplin Departments (for their respective content)*
- *Joplin Area Chamber of Commerce*
- *Downtown Joplin Business Alliance*
- *Joplin Department of Emergency Management*
- *Jasper and Newton counties*

COORDINATED JOPLIN BRAND

PROJECT DETAILS | BENEFITS

PEOPLE | Improves important communication channel to Joplin citizens, on all things Joplin-recreation, social, business, and health, etc. Enhanced quality of life because more information is available to residents to act on related to City services, transportation, safety, weather, etc. Residents will also be able to more easily interact with the City through their phones.

BUSINESSES | These digital channels can serve as platforms for stakeholders throughout the community to display information or events in one consolidated location.

CITY | Updating these tools can support improved Joplin branding (particularly the website) – both for external purposes (e.g., business and talent attraction, tourism) and for local residents. The City will also be able to more easily engage the community to hear from them as well as disseminate information via web or app alerts especially during a disaster or an emergency.

CONSIDERATIONS

The website will need to be designed to be used by both desktop and mobile device.

A dark site to be used for emergency situations could be useful for communicating during disasters.

Once a updated website is created, it is up to the content creators (i.e., City Departments) to upload and update the information available.

New features on the app or website would need to be marketed and socialized throughout the community; success is dependent on adoption.

Joplin is currently not paying to host its website; can investigate if updates are restructuring to make it more user-friendly is possible.

Joplin previously held a hackathon in 2011 to develop ideas; something similar with local high school and college students as well as businesses could be held.

See-Click-Fix app is already deployed and these can be additional modules.

App could include traffic alerts or trolley information to help people move via an integrated transportation app (e.g., general public, medical/dental students, workforce).

Creating a system at county level is possible and could be considered to expand notifications beyond City of Joplin limits; this would also allow easier communication of emergencies across jurisdictions.

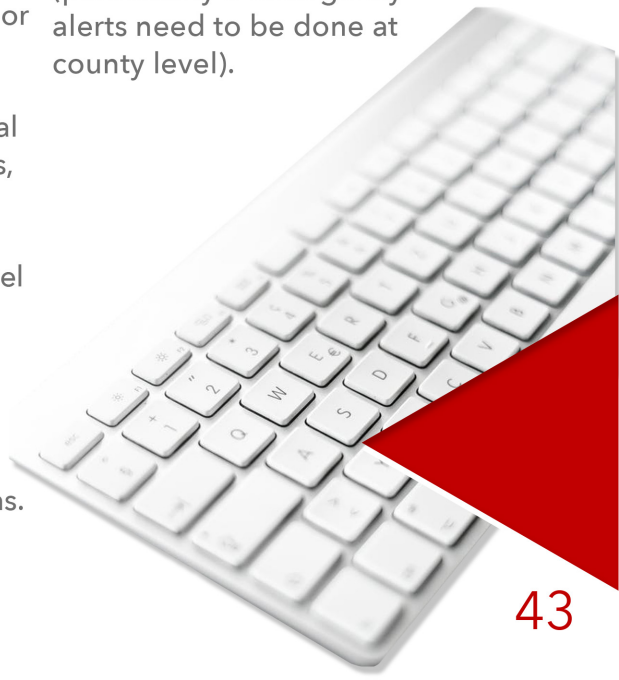


ESTIMATED COST

The cost will depend on the capabilities/outcomes desired. The website could cost around $0.95/person or $50k total using bidding data of 10 cities and counties around US while app updates could have an estimated annual cost of around $10,000 based on the original See-Click-Fix app

LIKELY FUNDING SOURCE(S)

Disaster recovery funds may be used to construct a dark site. For example, some cities have worked with local universities and their students to build a website or apps for free. Initial concepts can also be done through hackathons or civic challenges. Advertising can also be used to offset costs for either tool. City can also pursue a no cost contracting model where vendors can do work without charging City (citizens are charged when they use the vendor services to pay the government). For the app, savings may be realized if cost is split between County and City (particularly if emergency alerts need to be done at county level).



INNOVATION DISTRICT

PROJECT DETAILS

1. Develop more detailed project scope, identifying all desired goals and anticipated outcomes, with all key stakeholders.
2. Develop entrepreneurial-focused businesses outreach plan to stimulate interest for Innovation District opportunity
3. Develop Innovation District Partners Plan to identify and secure area organizations/firms who are interested in supporting District activities (e.g., provide technical assistance and other educational programs, support mentorship and/ or apprenticeship opportunities, facilitate access to capital and/or financing, provide workspaces, organize pitch competitions and networking events)
4. Develop private sector investment plan for innovation zone; Implement Plan.
5. Identify potential areas for Innovation District, prioritize and then select location.
6. Implement plan, evaluate outcomes relative to goals and expected outcome, adjust operational plan accordingly

DESCRIPTION | Develop a specific area in the City of Joplin (e.g., Downtown, a portion of Main Street, other potential locations) to establish a District that will focus on supporting the establishment of Joplin-based entrepreneurs and start-up businesses to help drive added/sustainable economic development for the City in a connected, mixed-use, "live/work/play" environment. The District, based upon a Private-Public Partnership model, will draw upon the resources and expertise of a number entities from across multiple sectors in the community.

YEAR 1 STEPS

KEY STAKEHOLDERS

- *Joplin Business and Industry*
- *Liberty Utilities*
- *Joplin Area Chamber of Commerce*
- *Joplin Department of Planning, Development & Neighborhood Services*
- *Joplin Area Non-Profits and Civic Organizations*
- *MSSU Small Business & Technology Development Center*
- *Crowder College*
- *Downtown Joplin Alliance*
- *Joplin Area Financial Institutions*

INNOVATION DISTRICT

PROJECT DETAILS | BENEFITS



People | Offers City residents and visitors a destination place with attractions like retail/services, restaurants, and entertainment options; connected by walking trails, public transit as well as streets. Its core benefits though are on skill development and social network network building for entrepreneurs and residents.

Businesses | Provides entrepreneurs and start-up businesses a location to gain technical assistance, develop sustainable business plans/operations, and engage in co-collocation to advance successful business activities. Can be a place to pilot technology, receive technical assistance, etc. Can include a co-working space so that businesses can meet each other and form partnerships.

City | Advancing sustainable City of Joplin's economic development goals while also giving people and businesses a platform to gain skills and test their technology. This District can be brand defining for the City as key neighborhood that tourists venture to.

CONSIDERATIONS

The District will be in a specific area, thus ensuring its benefits are shared throughout Joplin (e.g., easy access through public transit) will be important, particularly for low to moderate income populations.

Many districts in other cities are used as a "living lab" to test out technology deployments. For example, hackathons and open data could be useful complementary components to support an innovation drive in Joplin.

District needs to be accessible by transit (e.g., public transit, shareable bikes, scooters, trails, roads, etc.) from all parts of Joplin in order to be equitable.

The Brookings Institute details the economic (e.g., businesses, cafes, restaurants), physical (e.g., streets, buildings, trails, sidewalks), and networking (e.g., workshops, networking breakfasts) assets necessary for a cohesive innovation district to be successful.

Start-up capital (e.g., micro-enterprise loans and/or grants) and technical assistance (e.g., business planning, financial management) for qualified entrepreneurs will greatly support the long-term sustainable success of the Zone.

District will likely require high speed internet to support businesses and students.

ESTIMATED COST

Depends on scale (Kansas City's smart district was $15.7M total, $3.8M of which from the City over the course of 10 years and Pittsburg KS's Block 22 was $18M, $1.5M of which from the City), further cost estimates can be provided as proposal is further developed.

LIKELY FUNDING SOURCE(S)

CDBG-DR funding and economic development grants may be used, as well as public private partnerships investments, tax credits, and tax incentives (e.g., federal opportunity zone investments), other potential external funding opportunities (e.g., public – federal or state, foundations, etc.).

TIMELINE



TIMELINE

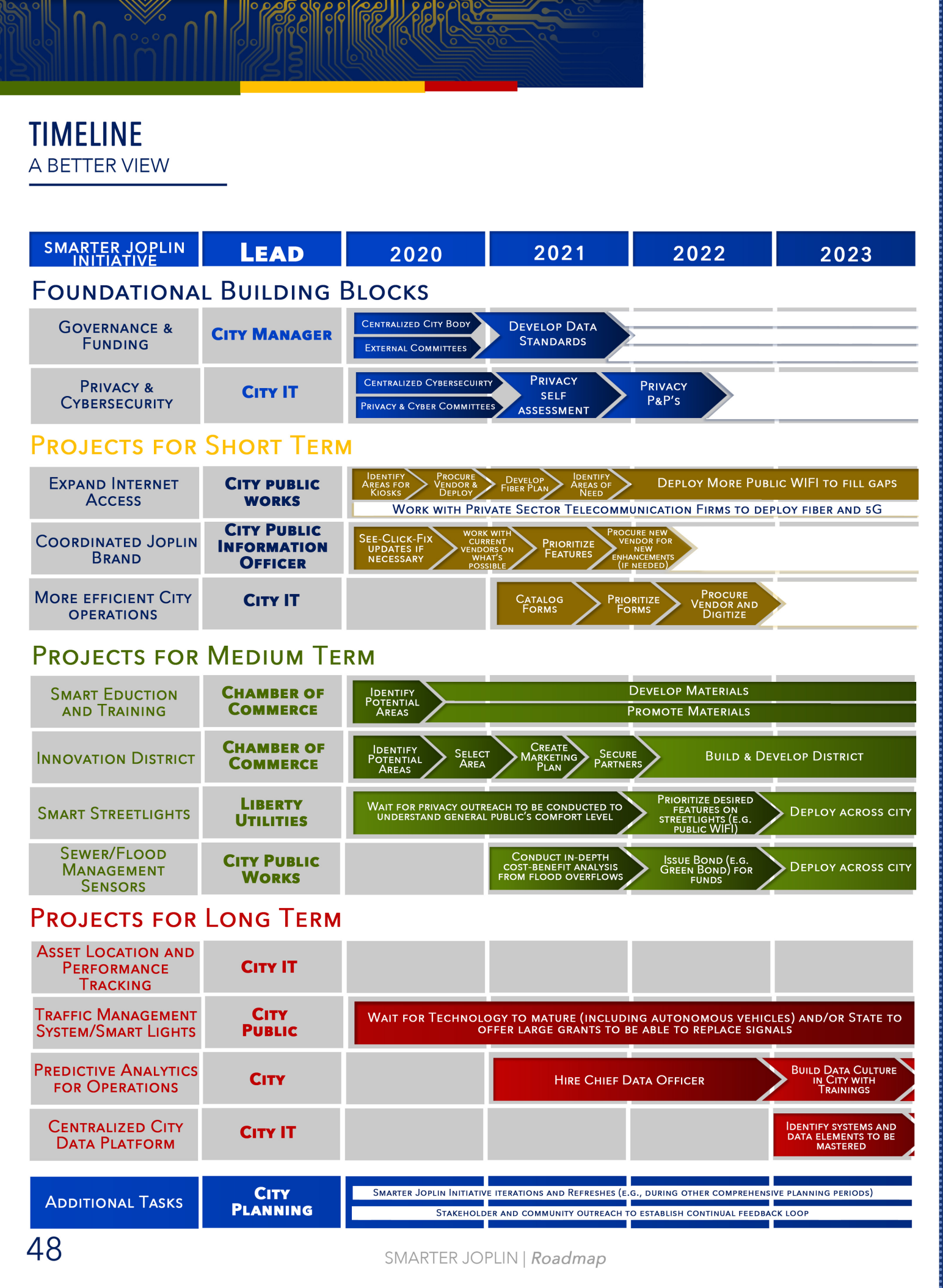
FIRST TEN YEARS

Taking the foundational and cross-cutting recommendations into account, as well as the next steps required to further design and implement each of the projects, the following timeline was developed. This is an iterative process so the timeline may be altered depending on the opportunities that arise in the future.



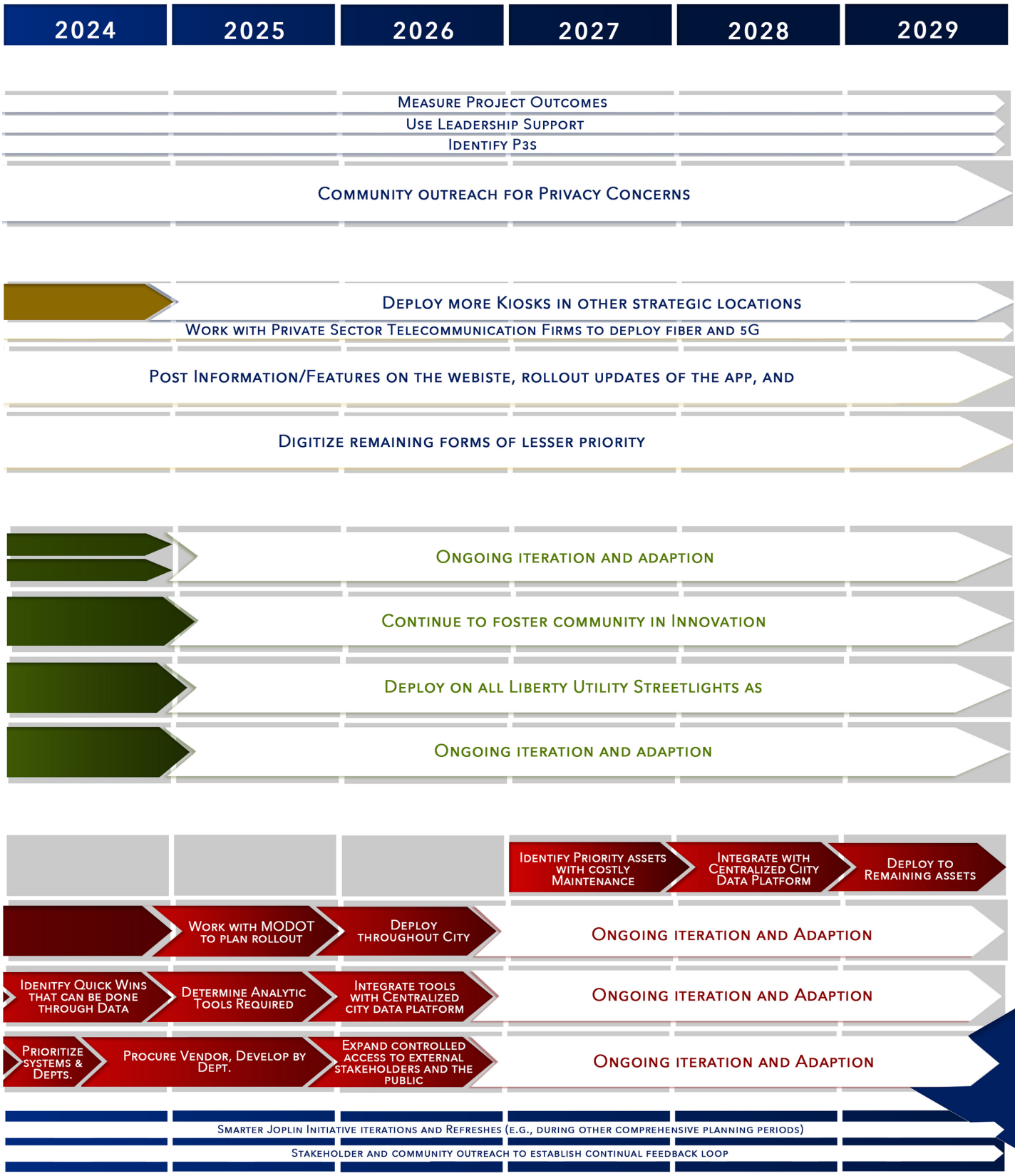
TIMELINE

A BETTER VIEW

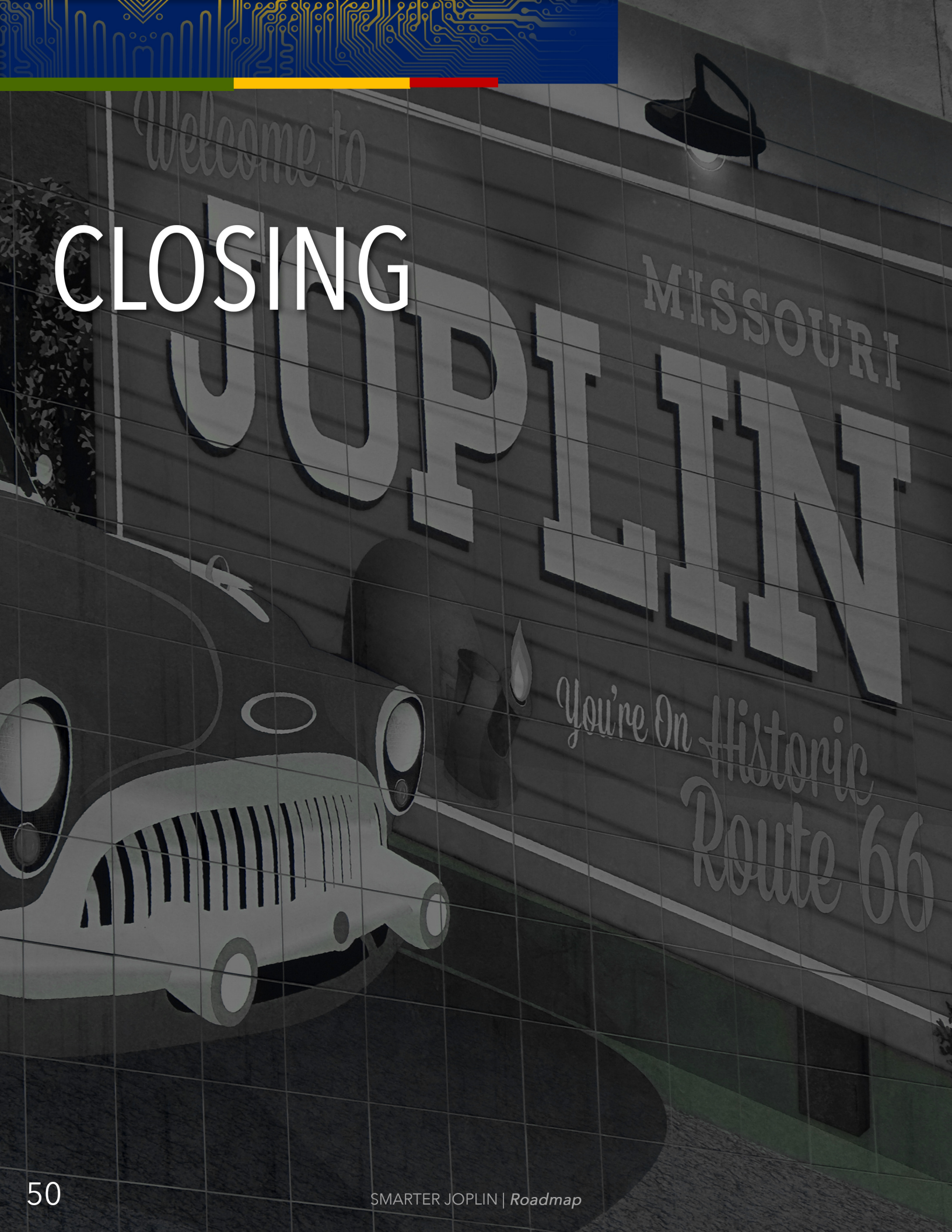


TIMELINE
A BETTER VIEW

KEY | ONE-TIME | ONGOING ITERATIVE TASK



CLOSING



CLOSING THOUGHTS

When the planning team first began working on the Initiative, we had some aspirational goals. The team envisioned an Initiative that could support the transformation of the City to be a place where people will want to live, work, and play. A Joplin where entrepreneurs would flock to in order to be surrounded by a diversity of individuals and a strong support system. A City that embraces the technology future and uses it to its advantage and to continue to be the strong economic engine of the Four States Region. And finally, a place that people are proud to call home and brag about it, whether on social media or over a cup of coffee with others who live elsewhere. Now that we have completed the initial planning phase of the Initiative, we are very encouraged to have visited with so many others who live and work here in Joplin who also share these same aspirational goals; these Joplin residents and business owners are anxious to see the City's leaders move forward to address these challenges and opportunities of the future.

This Smarter Joplin Initiative roadmap covers a lot of recommendations, some that will be relatively easy and others that will require more effort. The City will need to set-up working committees for each project, as well as an overall governance structure, to keep the initial momentum of interest moving forward. The Initiative will not become a reality without the commitment of people inside and outside the community. These human resources are the greatest assets that the City has at its disposal, so it must take care to use them wisely. Incorporate residents when designing a project. Reach out to businesses to see where they might be able to partner on an opportunity. Think about groups like health care, the medical and dental schools, education and its students, the arts, senior citizen communities, as well as the private sector, to make sure a diversity of opinions are at the table. Above all else, operate with integrity to earn these stakeholders' trust and respect. Similar to the successful recovery following the 2011 tornado, we know that much can be achieved by supporting this Initiative as a community.

We recommend that the City start small, and work on projects it knows are the priorities of the residents and businesses. Achieve some quick wins and conduct some pilots to build additional momentum. Use digital kiosks as a Smart City case study for the City. Learn how people react to them and then build-out from there. What did they like about them and just as importantly, what might need to be improved? Are people using their ability to connect to the internet? Conduct satisfaction surveys to measure projects like these to monitor quality of life or determine how many people engage with them. Measuring indicators of performance is critical, and publishing those successes is equally as important.

This roadmap needs to be iterative, adaptable, and agile to be successful. Celebrate the successes and keep track of the challenges so future corrective approaches can be implemented. Stronger trust within the community enables Joplin to continue to learn and grow through this journey as it embraces the future. The Smarter Joplin Initiative will have experiences similar to that of the recent recovery process; just like what the City has experienced, the community will adapt, overcome, and achieve greater results together.

ACKNOWLEDGMENTS

SMARTER JOPLIN ROADMAP

Many people were instrumental to this planning Initiative. The Smarter Joplin Initiative would like to thank in particular -

THE PEOPLE |	WHO THEY REPRESENT |
JEN BLACK	Alliance of Southwest Missouri; Tomorrow's Leaders Today
JOHN HUNTER	American Ramp Company
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FRANK THOMPSON	Automated Technology Company
RHONDA THOMPSON	Automated Technology Company
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JACK COLES	Bluebird Network
HOLLY CRANE	Bookhouse Cinema
KENNY WRIGHT	Sparklight (formerly CableOne)
RANDY KENNEDY	Sparklight (formerly CableOne)
BOB BENNETT	Former CIO of Kansas City, MO
	City of Kansas City, MO
TAYLOR CUNNINGHAM	City of Joplin - Asst. to the City Manager
LYNN ONSTOT	City of Joplin - Chief Information Officer
ROSCHELLE FORSYTHE	City of Joplin - City Clerk Office
BARBARA GOLLHOFER	City of Joplin - City Clerk Office
ANTHONY MONTELEONE	City of Joplin - City Council
MELODEE COLBERT-KEAN	City of Joplin - City Council
JIM WEST	City of Joplin – Former City Council Member
DIANE REID ADAMS	City of Joplin - City Council
MAYOR GARY SHAW	City of Joplin - City Council
RYAN STANLEY	City of Joplin - City Council
TAYLOR BROWN	City of Joplin - City Council
ANTHONY MONTELEONE	City of Joplin - City Council
KEENAN CORTEZ SR.	City of Joplin - City Council
PATRICK TUTTLE	City of Joplin - Convention & Visitors Bureau
LARRY ELLER	City of Joplin - Disaster Recovery
PATTY HEAGEL	City of Joplin - Disaster Recovery
SAM ANSELM	City of Joplin –Former City Manager
JOHAN BULLINGTON	City of Joplin - Disaster Recovery
ROB BEACHNER	City of Joplin - Disaster Recovery
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PETER EDWARDS	City of Joplin - Legal

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The People |	Who They Represent |
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Carla Bond	City of Joplin - Parks and Recreation
Chief Matthew Stewart	City of Joplin - Police Department
Dan Johnson	City of Joplin - Public Works
Lynden Lawson	City of Joplin - Public Works
David Hertzberg	City of Joplin - Public Works
Troy Bolander	City of Jopling- Planning
Stephanie Brady	Community Clinic
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Rodney Rambo	Crosslines Ministry
Lori Haun	Downtown Joplin Alliance
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John Joines	Economic Security Corporation
Dan Stanley	Edward Jones
Skip Harper	Freeman Health Systems
Jonathan Wallner	Freeman Health Systems
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Valerie Searcy	Home Builders Association of Southwest MO
Jane Cage	Insight Five 22
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Toby Teeter	Joplin Area Chamber of Commerce
Lisa Brown	Joplin Public Library
Leslie Hayse	Joplin Public Library
Bill Pate	Joplin Public Library
Sam McLorral	Joplin Public Library
	Joplin Public Library Board
Michele Vorhees	Joplin Schools
Dr. Kerry Sachetta	Joplin Schools
	Joplin Schools - Irving Elementary
	Joplin Schools - Joplin High School
	Joplin Senior Center
Jennifer Shotwell	Joplin Senior Center - Area Agency on Aging
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Brent Baker	Liberty Utilities
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Dustin Borland	Spire
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Kevin Anderson	The City of Omaha, NE
	Tomorrow's Leaders Today
Duane Dreiling	United Way

FEASIBILITY STUDIES



JOPLIN DISASTER RESILIENCY INITIATIVE | FEASIBILITY STUDIES

LIST OF ALL PROJECTS INITIALLY CONSIDERED

KEY

- CITYWIDE ASSETS & DIGITAL INFRASTRUCTURE
- CITY OPERATIONS
- MOBILITY
- PUBLIC SAFETY/HEALTH
- SUSTAINABILITY

EXPAND INTERNET ACCESS

CENTRALIZED CITY DATA PLATFORM

PREDICTIVE ANALYTICS FOR OPERATIONS

INNOVATION DISTRICT

SMART EDUCATION AND TRAINING PROGRAMS















DIGITAL KIOSKS

FORM DIGITIZATION AND AUTOMATION

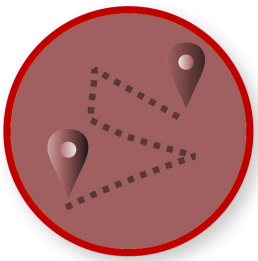
UPDATED CITY OF JOPLIN WEBSITE

DRONES AND ROBOTS FOR AUTOMATED TASKS

ASSET LOCATION AND PERFORMANCE TRACKING







JOPLIN DISASTER RESILIENCY INITIATIVE | FEASIBILITY STUDIES

LIST OF ALL PROJECTS INITIALLY CONSIDERED

- Smart Streetlights
- Smart Parking
- Autonomous Vehicle Testing Program
- Traffic Management System / Smart Traffic Lights
- Environment Sensors
- Crime Tip Collector
- Joplin alerts
- Health-relate Apps
- Gunshot Detection / CCTV
- Sewer / Flood Management Sensors
- Smart Grids
- Smart Buildings
- Smart Water Management
- Smart Waste Management

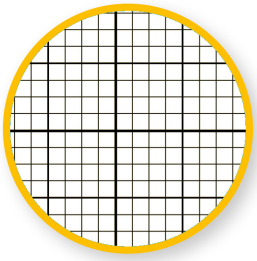










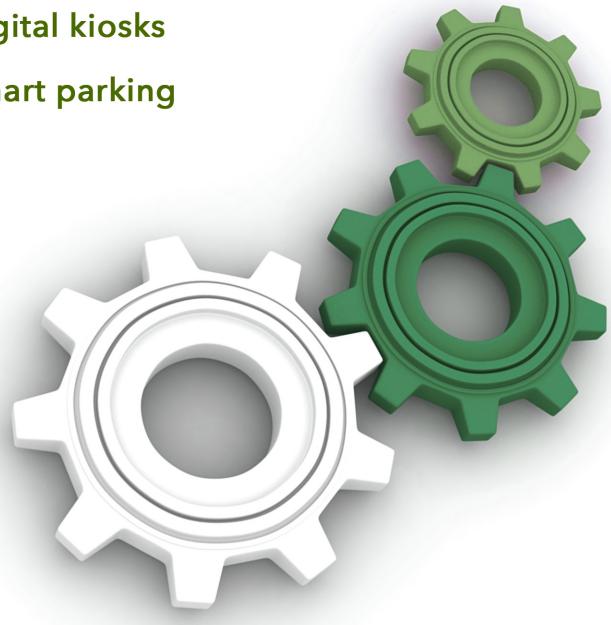





FINAL VOTING RESULTS

DISPLAYING RESPONSES FOR THE PROJECTS (WITH 25 OR MORE RESPONSES)

#	Project	2 Points Must-have	1 Point Nice	0 Points Not Needed	Total Points / # of repsonses Avg Score
1	Expand internet access	21	3	1	**1.80**
2	Smart education and training programs	18	5	2	**1.64**
3	Form digitization	15	9	1	**1.56**
4	Updated City of Joplin website	16	7	2	**1.56**
5	Innovation district	15	7	3	**1.48**
6	Smart streetlights	10	12	3	**1.28**
7	Centralized data platform	12	7	6	**1.24**
8	Traffic management system / smart traffic lights	9	12	4	**1.20**
9	Social coordination for physical health*	2	4	1	**1.14**
10	Health-related app*	2	6	1	**1.11**
11	Joplin alerts	6	12	6	**1.00**
12	Cyber seniors pairing students and senior citizens*	0	7	0	**1.00**
13	Public safety monitoring	5	13	7	**0.92**
14	Digital kiosks	4	13	8	**0.84**
15	Smart parking	2	12	11	**0.64**



Top 5 projects overall where majority of responders listed as "must-have"

These top 5 were also all in the City of Joplin's shortlist when a similar exercise was conducted.

WHAT DOES IT MEAN FOR A PROPOSED PROJECT TO BE FEASIBLE?

WE ASSESSED EACH PROJECT WITH A FEASIBILITY STUDY ACROSS 3 DIMENSIONS

FEASIBILITY DIMENSIONS



C) Have stakeholders expressed interest?
D) are there privacy or cybersecurity risks?
E) Can it be done equitably?

A) is the technology mature?
B) Can Joplin implement with current workforce and assets?

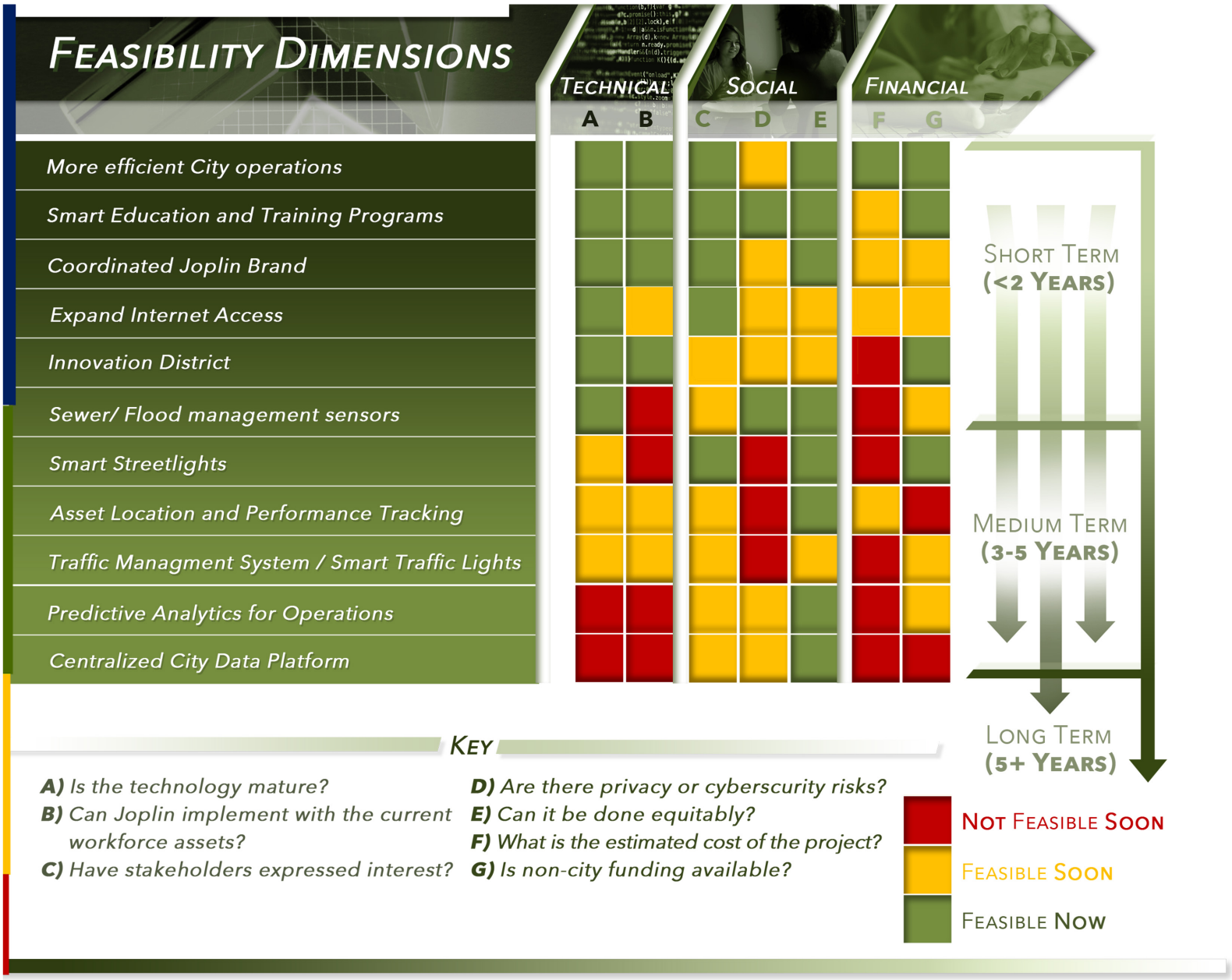
F) What is the estimated cost of the project?
G) How can the project be funded? (e.g., public, private, P3)?

*ranges subject to change: low cost <=$25k, medium <$250k, high >=$250k

HOW WILL THESE FEASIBILITY STUDIES LEAD INTO THE ROADMAP?

WE WILL PRIORITIZE AND SEQUENCE PROJECTS BASED ON THEIR FEASIBILITY

TOP 11 PROJECTS



EXPAND INTERNET ACCESS

FEASIBILITY STUDY (PART 1 OF 2)

Expand Joplin's access to internet by identifying coverage gaps, business and public needs, as well as financial and education gaps.

OBJECTIVE | Give people better access to fast internet which could be essential for economic development and public safety

CONSIDERATIONS

The City of Joplin does not currently have a wide network of municipal fiber or conduit, and managing a municipal internet takes in-house skills and additional funding.

Having numerous internet service providers can improve/expand service levels/offerings, thus supporting competition is important to achieve identified outcomes.

Other technologies may be used to complete the "last mile" of broadband service, but a fiber backbone will still be required to accomplish expanded Internet access.

An in-depth connectivity study is required initially required to determine gaps in access.

Each kiosk needs to be connected to fiber and power to be able to function.

Kiosks will need to be strategically placed in either areas of high foot traffic or priority locations (e.g., trolley stops to provide times or places to deploy public Wi-Fi).

KEY STAKEHOLDERS

- *Joplin Department of Public Works*
- *Liberty Utilities*
- *Telecommunications firms*
- *Joplin Department of Planning, Development & Neighborhood Services*
- *Joplin Business Community (e.g., Joplin Chamber of Commerce, community lead)*
- *Joplin Department of Information Technology*
- *Joplin Convention & Visitors Bureau*
- *Joplin City Attorney's Office*

Other technologies may be used to complete the "last mile" of broadband service, but a fiber backbone will still be required to accomplish expanded Internet access.

The City has adopted a small cell ordinance and is currently implementing fiber agreements with telecom entities for Right of Way (ROW) fees.

Funding generated as a part of this effort can be earmarked for future digital inclusion or Smart City projects, positions, or studies.



EXPAND INTERNET ACCESS

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
Technical		**a)** Is the technology mature?	**Yes.** Citywide broadband access has been deployed in many cities around the US. Kiosk technology has been deployed and in use by the city of Kansas City (and several others) for several years.
		b) Can Joplin implement with current workforce and assets?	**Depends.** 'Yes' if private telecommunications firms conduct buildout, 'No' if City does it. For the kiosks, an outside vendor (e.g., Smart City Media) could come in and deploy fairly quickly.
Social		**c)** Have stakeholders expressed interest?	**Yes.** Improved internet connectivity for residents and businesses has been mentioned many times by all a wide variety of stakeholders.
		d) Are there privacy or cybersecurity risks?	**Potentially.** If City provides its own internet service or hosts public Wi-Fi, it could be at risk. If the kiosks collect data, then there could also be privacy concerns.
		e) Can it be done equitably?	**Potentially.** It is possible to connect fiber to all homes, but it may be more costly in less developed areas. Kiosk equity is dependent on location of where they are placed.
Financial		**f)** What is the cost of the proposed project?	A private internet model, similar to Kansas City, Missouri, could be cheap for the City as it negotiates with its assets. Those models are cost neutral, but require buildout from the private sector. A municipal model could cost around $50M (based on the cost of municipal networks in other cities). For the kiosks, capital costs for Branson ranged from $27,575 - $39,675 depending on type of kiosk with a moderate operating cost of a few hundred dollars.
		g) How will the project be funded (public, private, P3)?	There are options such as Community Development Block Grants (CDBG) and bonds (e.g., revenue, general obligation), but each option will take time to apply. For the kiosks, based on meetings with Kansas City, MO it is believed that capital cost would be made up through ad revenue with 50% of the revenue going to the City and the other 50% going to the vendor if City can pay capital costs. If this arrangement is not possible to Joplin, the City could enter 25% revenue share agreement.

Finding | Municipal buildout feasible only with significant grant funding (e.g., CDBG), but private buildout from telecoms and utilities more feasible more quickly.

*using data from over 40 municipal networks, calculated the average cost per person (excluding outliers) to be funded by public and private sector

SMART EDUCATION AND TRAINING PROGRAMS

FEASIBILITY STUDY (PART 1 OF 2)

Expand technology/data, resiliency, and entrepreneurial focused programs (e.g., computer programming), apprenticeships, mentorships, and training in schools and workplaces. Collaboration with the JACC, Missouri Southern State University (MSSU), and existing workforce centers like Joplin Advanced Training and Technology Center (ATTC), Workforce Investment Board (WIB), and the Franklin Technology Center could be explored to reach an expanded workforce talent pool.

KEY STAKEHOLDERS

- *Joplin Area Chamber of Commerce*
- *Joplin area schools (MSSU, Joplin High School, etc.)*
- *Missouri Department of Economic Development*
- *Joplin Area Businesses*
- *City of Joplin*

OBJECTIVE | Would promote tech and other new businesses to Joplin with available talent.

CONSIDERATIONS

The Joplin Area Chamber of Commerce's involvement is important to continually articulate needs of the business community (e.g., technology, professional services, health, manufacturing, commercial driving). The Chamber's strategic plan outlines numerous initiatives that can be supported to further enable this project.

Close coordination with existing resources/efforts (e.g., Franklin Tech, ATTC and the Workforce Investment Board) which currently work with businesses to identify workforce needs and train individuals/student.

Identify additional existing State and Federal resources (e.g., free open online courses, etc.) to compliment the development/implementation of additional Joplin-area programs.

Must ensure all qualified program applicants have access and account for barriers (e.g., transportation, child care, age gap); need to expand and/or increase awareness of program opportunities.

Educational or financial programs specially focused on vulnerable population demographics, including minorities and women who should be included in order to support diversity. Outreach to military veterans should also be a very high priority for the programs.

Private sector must be involved in training programs via mentorships, apprenticeships, and internships to create successful career pathways.

Strong focus on junior and high school students to establish understanding of opportunities of such programs, and encourage participation when possible.

Programs need to include both soft and hard skill training for adults that match businesses to potential employees.

SMART EDUCATION AND TRAINING PROGRAMS

FEASIBILITY STUDY (PART 2 OF 2)

- NOT FEASIBLE SOON
- FEASIBLE SOON
- FEASIBLE NOW

	RATING	CRITERIA	ASSESSMENT
TECHNICAL		**a)** Is the technology mature?	**Yes.** This project is less specific technology-based and more about programs to teach students and adults how to be more technologically fluent.
		b) Can Joplin implement with current workforce and assets?	**Yes.** Joplin already has the infrastructure in place for this to be successful (schools, ATTC, businesses); it is more about continuing to foster and build connections between institutions to align needs to training.
SOCIAL		**c)** Have stakeholders expressed interest?	**Yes.** This was consistently expressed as a major need from all stakeholders, both from the business community and non-profit service providers, as well as City staff.
		d) Are there privacy or cybersecurity risks?	**Not Really.** No data really needs to be captured beyond metrics tracking program outcomes from those receiving training and return on investment.
		e) Can it be done equitably?	**Yes.** Programs can be intentionally designed so that all have access, but may be more costly depending on if transportation or technology needs to be provided.
FINANCIAL		**f)** What is the cost of the proposed project?	It depends on the breadth of the rollout. Colleges and other organizations have received grants to develop similar workforce programs, and in many locations the private sector underwrites such costs.
		g) How will the project be funded (public, private, P3)?	g) How will the project be funded (public, private, P3)? Lots of federal STEM funding exists. Department of Education has numerous programs with large budgets funded and related to STEM: Career and Technical Education ($1.3B budget), Student Support and Academic Enrichment Grants ($1.1B), Education Innovation and Research ($130M), and Minority Science and Engineering Improvement ($11M). The National Science Foundation also has numerous programs that could assist with this project: Education and Human Resources Directorate ($910M), Advanced Technological Education ($66M), and additional fellowships and scholarships. NASA has some fund through its Office of Education ($110M) and another $45M specifically for education and public outreach. The Department of Defense's National Defense Education Program has a budget of $136M. The EPA also has a grant available for environmentally-focused workforce training. In addition to these public options, the private sector could provide staff time (e.g., via startup in residence program), and re-aligning current education and training efforts on technology, data analysis, health, etc. could also assist in supporting such programs.

Finding | Feasible with strong private sector drive and support

MORE EFFICIENT CITY OPERATIONS

FEASIBILITY STUDY (PART 1 OF 2)

Streamline online City forms and applications/permits to better support businesses (e.g., building and code inspectors are in process of putting systems online, will be able to upload information through tablets) and residents (e.g., increased transparency by checking status of where one is in the process). Platforms could be linked with other City applications like SeeClickFix.

OBJECTIVE | Increase ease of doing business with the City as well as efficiency of processing forms by City staff.

KEY STAKEHOLDERS

- *Joplin Department of Information Technologies*
- *All Joplin Departments*
- *Joplin Area Chamber of Commerce*



CONSIDERATIONS

The number of City forms to be converted would need to be identified and prioritized

Appropriate City services to also be offered online would need to be identified and prioritized.

Beyond putting forms online with the ability for data entry, there is the potential to conduct business process re-engineering studies to streamline operations.

Some paper forms would likely still need to be maintained for populations without computers and/or for preferred non-online activity.

Proactive communications, socializing and testing of the forms and other activities with City staff, citizens, and businesses prior to "official roll-out" will be important to make sure the process is actually easier for them.

It will be important to ensure that all the systems and databases are linked for shared services/ bill collection/ registration etc.

An analysis of City services and identification of consolidation potential can be conducted.

MORE EFFICIENT CITY OPERATIONS

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
Technical		**a)** Is the technology mature?	**Yes.** Putting forms online has been done in many cities. However, AI component is still immature.
		b) Can Joplin implement with current workforce and assets?	**Yes.** The City can manage a vendor to work with individual departments and convert their forms online.
Social		**c)** Have stakeholders expressed interest?	**Yes.** Many stakeholders outside of the City have said processes like registering a business are complex – this project in combination with the updated City website can greatly assist.
		d) Are there privacy or cybersecurity risks?	**Potentially.** Forms carrying citizen data naturally have risks, but they should be no more risk than paper forms used today with proper cybersecurity protocols.
		e) Can it be done equitably?	**Most Likely.** All citizens with access to internet will be able to benefit from the City putting all appropriate forms online.
Financial		**f)** What is the cost of the proposed project?	Estimated annual cost to digitize forms for Joplin is between $5,000 and $10,000 based on pricing data from 5 cities and counties around the U.S. Can be near $0 if no-cost contracting agreement is entered. Cost to catalog forms would require City labor hours
		g) How will the project be funded (public, private, P3)?	Form digitization is an opportunity for no-cost contracting where the vendor is paid through fees when the citizen uses the vendor's service to pay the government. In addition, the Missouri State Secretary offers a grant for record management and Code for America has automated forms for other public entities.

Finding | Feasible in short term to begin initiative for form conversion, but AI component not feasible.

*using pricing data from 5 cities and counties across US, all entries cost less than $10,000 a year.

COORDINATED JOPLIN BRAND

FEASIBILITY STUDY (PART 1 OF 2)

Improve communication between residents and City and empower citizens to have more of a voice. Accomplish this by enhancing usability of City of Joplin website and expand use cases of See-Click-Fix app to include more features like relevant City information, neighborhood, school, trolley data, guides to use during a disaster and for general City services, City-required business forms, economic development information, data maps, etc. It was also suggested on numerous occasions that the website or app should support a forum for citizens / businesses to make suggestions for improved City operations and citizen feedback. These digital channels can serve as platforms for stakeholders throughout the City to display information or events. In addition, updating these tools can also support improved Joplin branding (particularly the website) – both for external purposes (e.g., business and talent attraction, tourism) and for local residents (e.g., improved recognition of Joplin opportunities).

OBJECTIVE | Improves important communication channel to citizens, businesses, and visitors.

CONSIDERATIONS

The website will need to be designed to be used by both desktop and mobile device.

KEY STAKEHOLDERS

- Joplin Office of Public Information Officer
- Joplin Department of Information Technologies
- Joplin Convention & Visitors Bureau
- Sunshine Lamp Trolley & Metro Area Paratransit System (MAPS)
- All other Joplin Departments (for their respective content)
- Joplin Area Chamber of Commerce
- Downtown Joplin Business Alliance
- Joplin Department of Emergency Management
- Jasper and Newton counties

Joplin previously held a hackathon in 2011 to develop ideas; something similar with local high school and college students as well as businesses could be held.

Once a updated website is created, it is up to the content creators (i.e., City Departments) to upload and update the information available.

New features on the app or website would need to be marketed and socialized throughout the community; success is dependent on adoption.

Creating a system at county level is possible and could be considered to expand notifications beyond City of Joplin limits; this would also allow easier communication of emergencies across jurisdictions.

Joplin is currently not paying to host its website; can investigate if updates are restructuring to make it more user-friendly is possible.

A dark site to be used for emergency situations could be useful for communicating during disasters.

See-Click-Fix app is already deployed and these can be additional modules.

App could include traffic alerts or trolley information to help people move via an integrated transportation app (e.g., general public, medical/dental students, workforce).

COORDINATED JOPLIN BRAND

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
Technical		a) Is the technology mature?	**Yes.** Websites are ubiquitous. City apps are less mature but more and more cities are deploying.
		b) Can Joplin implement with current workforce and assets?	**Yes.** The City already has a website and an app in production, this project is just focused on enhancing or replacing them.
Social		c) Have stakeholders expressed interest?	**Yes.** Many stakeholders (including City staff) have expressed difficulty navigating the website. The website could (and likely should) be the place to communicate information vital for citizens and businesses to make their lives easier, find information, and complete tasks. Many City stakeholders have also expressed interest in the app and its potential to increase public safety.
		d) Are there privacy or cybersecurity risks?	**Potentially.** If citizens were to make accounts on the website or app, it could contain personally identifiable information.
		e) Can it be done equitably?	**Most Likely.** All citizens with access to internet will be able to benefit from an updated website. App would most likely require a smart phone.
Financial		f) What is the cost of the proposed project?	The cost will depend on the capabilities/outcomes desired. The website could cost around $0.95/person or $50k total using bidding data of 10 cities and counties around US while app updates could have an estimated annual cost of around $10,000 based on the original SeeClickFix app.
		g) Is non-City funding available?	Disaster recovery funds may be used to construct a dark site. Some cities have worked with local universities and their students to build a website or apps for free. Initial concepts can also be done through hackathons or civic challenges. Advertising can also be used to offset costs for either tool. Can also pursue no cost contracting model where vendors can do work without charging City (citizens are charged when they use the vendor services to pay the government). For the app, savings may be realized if cost is split between County and City (particularly if emergency alerts need to be done at county level).

Finding | Feasible in short term if made priority for the City.

INNOVATION DISTRICT

FEASIBILITY STUDY (PART 1 OF 2)

Identify an area (e.g., Main Street, East Town, etc.) to support the establishment of start-up businesses assisted by technology to encourage entrepreneurship and drive new job creation and added economic development. Such development could also support existing business and/or encourage the establishment to new clustering ventures. The District would need to be connected from an internet and transportation perspective so that all qualified participants can have access.

OBJECTIVE | Increase economic development with zone for startups to pilot inventions.

KEY STAKEHOLDERS

- Joplin Business and Industry
- Liberty Utilities
- Joplin Area Chamber of Commerce
- Joplin Department of Planning, Development & Neighborhood Services
- Joplin Area Non-Profits and Civic Organizations
- MSSU Small Business & Technology Development Center
- Crowder College
- Downtown Joplin Alliance
- Joplin Area Financial Institutions

CONSIDERATIONS

The Brookings Institute details the economic (e.g., businesses, cafes, restaurants), physical (e.g., streets, buildings, trails, sidewalks), and networking (e.g., workshops, networking breakfasts) assets necessary for a cohesive innovation district to be successful.

Start-up capital (e.g., micro-enterprise loans and/or grants) and technical assistance (e.g., business planning, financial management) for qualified entrepreneurs will greatly support the long-term sustainable success of the Zone.

District will likely require high speed internet to support businesses and students.

The District will be in a specific area, thus ensuring its benefits are shared throughout Joplin (e.g., easy access through public transit) will be important, particularly for low to moderate income populations.

Many districts in other cities are used as a "living lab" to test out technology deployments. For example, hackathons and open data could be useful complementary components to support an innovation drive in Joplin.

District needs to be accessible by transit (e.g., public transit, shareable bikes, scooters, trails, roads, etc.) from all parts of Joplin in order to be equitable.



INNOVATION DISTRICT

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
Technical		**a)** Is the technology mature?	**Yes.** The zone may not necessarily need any technology (besides fiber most likely which is mature). The rest of it can come from Joplin's businesses and students.
		b) Can Joplin implement with current workforce and assets?	**Yes.** The City can work closely with the Joplin Area Chamber of Commerce to identify an area, and recruit potential partners to the project.
Social		**c)** Have stakeholders expressed interest?	**Potentially.** Community leaders have expressed interest, yet this proposed project requires buy-in and investment from external stakeholders.
		d) Are there privacy or cybersecurity risks?	**Potentially.** Although no cameras or sensors need to be deployed initially, they likely will be put in place eventually whose data will need to be tracked and managed.
		e) Can it be done equitably?	**Somewhat.** Because it is a designated area, inevitably some people will have more access than others due to transportation or other means.
Financial		**f)** What is the cost of the proposed project?	Depends on scale (Kansas City's smart district was $15.7M total, $3.8M of which from the City over the course of 10 years and Pittsburg KS's Block 22 was $18M, $1.5M of which from the City), further cost estimates can be provided as proposal is further developed.
		g) Is non-City funding available?	CDBG-DR funding and economic development grants may be used, as well as public private partnerships investments, tax credits, and tax incentives (e.g., federal opportunity zone investments), other potential external funding opportunities (e.g., public – federal or state, foundations, etc.).

Finding | Feasible to begin having partnering discussions but implementation is likely several years away from possibility before determining more concrete plan in area with partners.

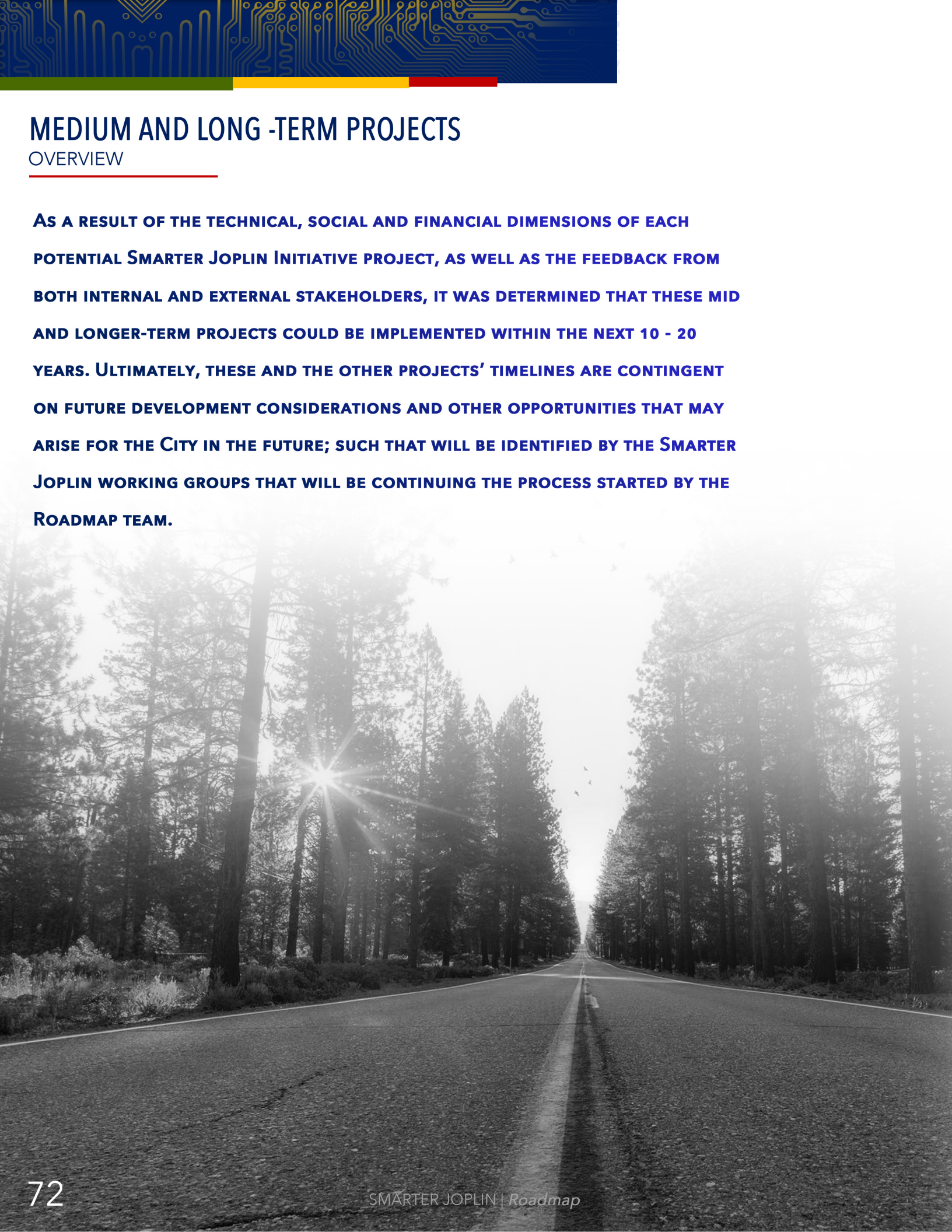
MEDIUM AND LONG- TERM PROJECTS



MEDIUM AND LONG -TERM PROJECTS

OVERVIEW

As a result of the technical, social and financial dimensions of each potential Smarter Joplin Initiative project, as well as the feedback from both internal and external stakeholders, it was determined that these mid and longer-term projects could be implemented within the next 10 - 20 years. Ultimately, these and the other projects' timelines are contingent on future development considerations and other opportunities that may arise for the City in the future; such that will be identified by the Smarter Joplin working groups that will be continuing the process started by the Roadmap team.



SMART STREETLIGHTS

FEASIBILITY STUDY (PART 1 OF 2)

Allows dimming and remote control of brightness (typically LED) can be controlled by movement and will alert the owner when a light goes out. Can also serve as physical platform for sensors or public Wi-Fi.

OBJECTIVE | Reduces energy costs with the lighting and maintenance costs when out. Can also serve as platform for other sensors.



KEY STAKEHOLDERS

- *Liberty Utilities*
- *Joplin Department of Public Works*
- *Joplin Department of Planning, Development & Neighborhood Services*
- *Other Joplin Departments as necessary depending on use case*

CONSIDERATIONS

Liberty owns the majority of streetlights in the City but the City does own a few; City will need to heavily coordinate with Liberty on the implementation of this project.

Streetlights can host many sensors or equipment (e.g., parking identification, gunshot detection, air quality sensors, public Wi-Fi, electric vehicle charging, cameras), but need to prioritize use cases.

Smart streetlights can also be used for emergencies with colors and sounds to alert residents.

The range of sensing in another city per streetlight was approximately 118 feet by 177 feet.

Devices must be connected to power and internet (e.g., via fiber or mesh network).

LED conversions and controls can help business case due to energy savings

SMART STREETLIGHTS

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
Technical		a) Is the technology mature?	**Relatively.** Although street lights with IoT sensors are becoming mature, LED streetlights with controls have been deployed in many other cities.
		b) Can Joplin implement with current workforce and assets?	**No.** Liberty owns the majority of the streetlights in the City.
Social		c) Have stakeholders expressed interest?	**Yes.** This was one of the top projects as voted by both the City and the external stakeholders.
		d) Are there privacy or cybersecurity risks?	**Likely.** Deploying cameras or noise sensors inherently carries privacy risks due to surveillance concerns.
		e) Can it be done equitably?	**Likely Yes.** As long as there are streetlights and a connection to the internet (e.g., fiber) they can be deployed.
Financial		f) What is the cost of the proposed project?	Estimates from deployments in Portland, OR and San Diego, CA place costs at around $5,000 - $10,000 / light.
		g) Is non-City funding available?	Due to energy savings from LED conversion and controls, the lights have the chance to pay for themselves in their lifetime; some companies may be willing to provide upfront funding for an Energy Savings Performance Contract.

Finding | Feasible to work with Liberty to implement soon while taking time to prioritize use cases and educate public.

CENTRALIZED CITY DATA PLATFORM

FEASIBILITY STUDY (PART 1 OF 2)

Platform that streamlines collection and analysis of data from various entities. Different applications (including off-the-shelf solutions) can be integrated. Use cases include asset management, mapping, data sharing, digital IDs for specialized services, etc.

OBJECTIVE | Would break silos, ease data sharing, and enable new analyses and insights.

KEY STAKEHOLDERS

- *Joplin Department of Information Technologies*
- *All Joplin Departments (for their respective data integrations)*
- *Other entities interested in sharing data with the City*

CONSIDERATIONS

Using a master data architecture can create a single version of truth for replicated datasets throughout the City (e.g., address information) Rollout of platform can be incremental going from department to department.

Although all of the data can be accessed in the same place, governance of each data set will need to be determined (i.e., who can grant access, who can get access, who ensures data is clean, etc.).

This project can enable and support many of the other projects (e.g., predictive analytics, sensors).

Platform can be used to share data with entities outside of the City.

For platform to be effective, it is imperative that it be flexible and interoperable with other systems.

This will help to make sure departments/services are linked/connected and talking to each other in order to help streamline services and create a "one stop shop mentality."

Platform will provide/allow City leadership to be able to view metrics and other data on City services offered.



CENTRALIZED CITY DATA PLATFORM

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
Technical		**a)** Is the technology mature?	**Not Really.** There are a few examples in the US (e.g., Boston, Kansas City), but the use cases and benefits are still emerging for cities.
		b) Can Joplin implement with current workforce and assets?	**Not Really.** Implementing a system of this scale would be a major effort for both IT, the departments getting integrated, and the implementing vendor.
Social		**c)** Have stakeholders expressed interest?	**Somewhat.** City stakeholders expressed significant interest, yet external stakeholders decided it was just a "nice to have" option.
		d) Are there privacy or cybersecurity risks?	**Potentially.** Anytime there is the aggregation of data and mixing of sources, there is the potential to include sensitive datasets.
		e) Can it be done equitably?	**Yes.** This project can be applied to all projects and be used in some capacity for all residents and businesses.
Financial		**f)** What is the cost of the proposed project?	Depending on the selected vendor, amount of records, and additional features, an implementation cost could range from $100,000 to $960,000 per year.
		g) Is non-City funding available?	This project is predominantly a City internal project that will be difficult to procure outside funding for.

Finding | Not feasible in short or medium term until sufficient City resources can be identified and technology is more mature for cities.

TRAFFIC MANAGEMENT SYSTEM / SMART TRAFFIC LIGHTS

FEASIBILITY STUDY (PART 1 OF 2)

Using data, video cameras, LED lights, smart traffic lights, an operations center, and/or sensors to better understand traffic flow (i.e., cars, pedestrians, cyclists) and ultimately reduce congestion.

OBJECTIVE | Reduce traffic congestion greatly which improves quality of life.

KEY STAKEHOLDERS

- *Joplin Department of Public Works*
- *Joplin Department of Information Technology*
- *Missouri Department of Transportation (MoDOT)*

CONSIDERATIONS

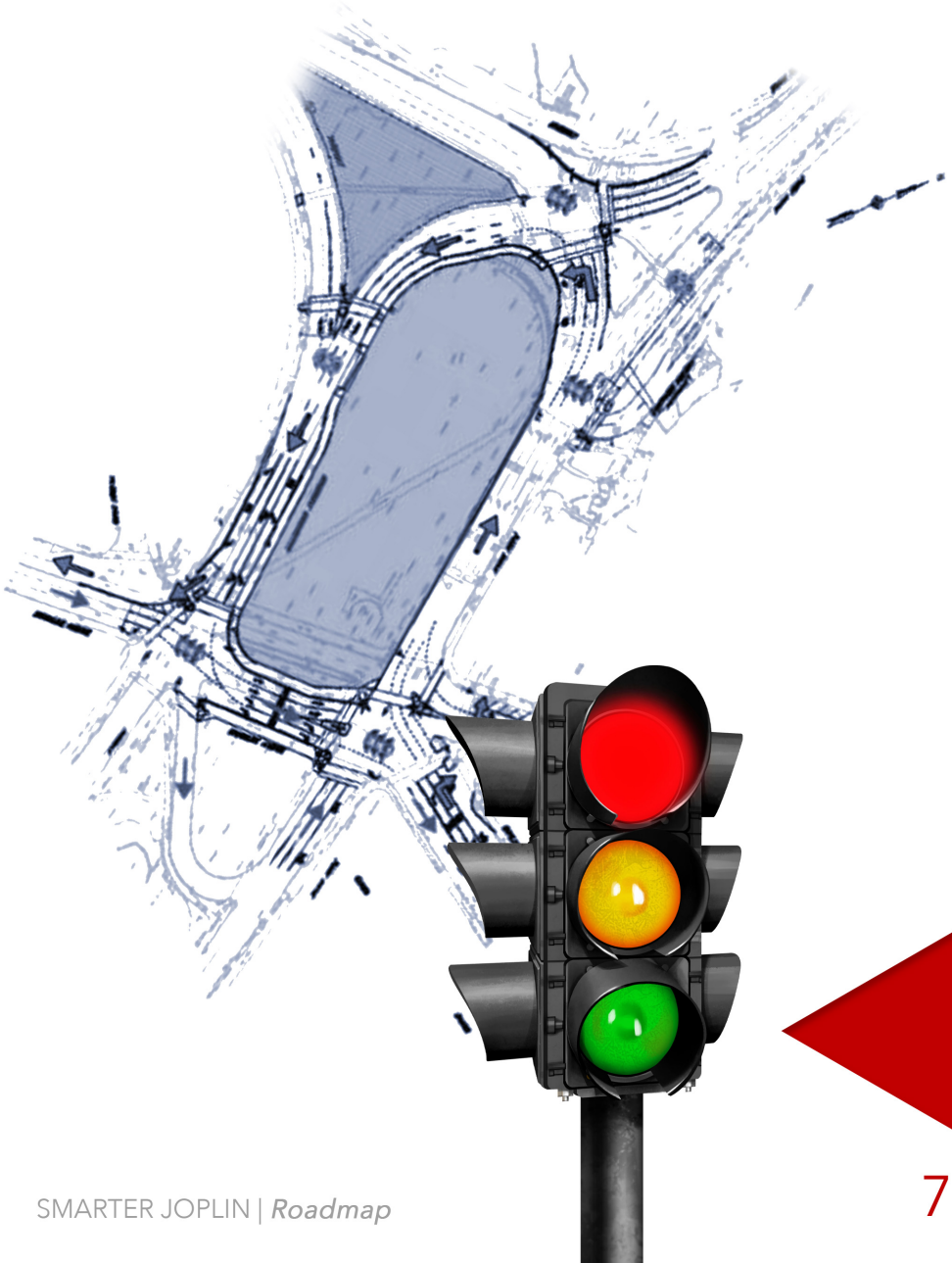
Decreased wait times in traffic not only increase quality of life due to not being stuck in traffic, but also decrease carbon emissions from idle time.

A supporting project of a traffic management center can also be included in a rollout in order to better manage/understand traffic.

A transit study to understand how to enhance the trolley service is currently being conducted and should be completed by Fall of 2019.

Because the infrastructure required for autonomous vehicles is still relatively unknown, upgraded traffic signals may need to be upgraded again or even replaced in order to accommodate the new mode of transportation.

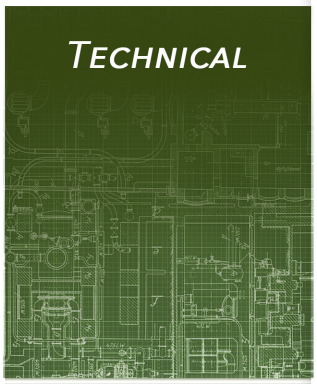
Fiber will be needed to manage/collect data that could be collected from these lights.



TRAFFIC MANAGEMENT SYSTEM / SMART TRAFFIC LIGHTS

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
 Technical		**a)** Is the technology mature?	**Somewhat.** Adaptive traffic signal technology has been around for several years, but they are continuing to get more intelligent. It is also unclear whether they will need to be changed to promote an autonomous vehicle future.
		b) Can Joplin implement with current workforce and assets?	**Depends.** If MoDOT is doing the majority of the implementation, Joplin is ready, but that may not be the case if the City has to do most of it on its own.
 Social		**c)** Have stakeholders expressed interest?	**Somewhat.** City stakeholders expressed significant interest, yet external stakeholders decided it was a "nice to have" option.
		d) Are there privacy or cybersecurity risks?	**Likely.** Cameras and other sensors would likely be installed to get data on traffic, bicycles, and pedestrians.
		e) Can it be done equitably?	**Potentially.** Given the cost of each replacement, the implementation cost will likely be staggered, which means that some areas might be favored over others.
 Financial		**f)** What is the cost of the proposed project?	The technology system implemented in Pittsburgh and Atlanta costs about $20,000 per intersection.
		g) Is non-City funding available?	Other cities where this has been deployed relied on the state being a big part of the implementation with Federal grants from USDOT supporting.

Finding | Not feasible unless adaptive signal replacement becomes a State initiative.

SEWER / FLOOD MANAGEMENT SENSORS

FEASIBILITY STUDY (PART 1 OF 2)

Sensors (e.g., on manholes, pipes, fire hydrants, etc.) in order to detect changes in the environment and provide system alerts for early flood detection.

OBJECTIVE | Increase public safety by better flood management capabilities of infrastructure.

KEY STAKEHOLDERS

- *Joplin Department of Public Works*
- *Joplin Department of Planning, Development & Neighborhood Services*

CONSIDERATIONS

Deploying sensors out into physical world requires testing of environment conditions.

Sensors represent more potential attack vectors from a cybersecurity perspective.

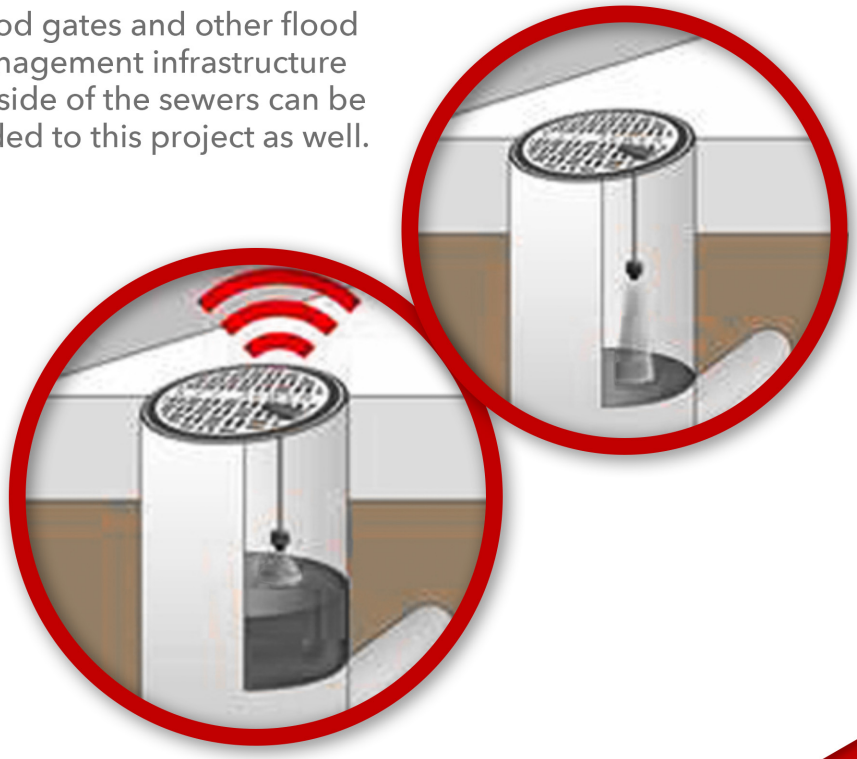
Many cities that have implemented similar projects have experienced cost savings in the hundreds of millions (e.g., Kansas City, South Bend) through more efficient water management plans.

Several of those same cities faced EPA consent decrees and mandates which initiated the need and urgency for these projects.

There will likely be a huge amount of data being collected from the sensors that will need to be managed, analyzed, and eventually discarded.

Sensors would be deployed in medium and high risk flood areas and be used as an alert and diversion system to mitigate chances of flooding.

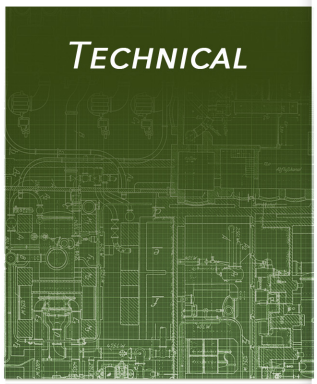
Flood gates and other flood management infrastructure outside of the sewers can be added to this project as well.



SEWER / FLOOD MANAGEMENT SENSORS

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
 Technical		**a)** Is the technology mature?	**Yes.** This technology has been deployed in several other cities (e.g., Kansas City, South Bend, City of Cincinnati) for years.
		b) Can Joplin implement with current workforce and assets?	**Not Really.** Joplin has the workforce to manage a vendor to perform the work but needs a network for the sensors and a cloud capability to store the data from the sensors.
 Social		**c)** Have stakeholders expressed interest?	**Somewhat.** Public Works has expressed some interest in this project, particularly in order to avoid a mandate from the EPA, but others have not verbally voiced interest.
		d) Are there privacy or cybersecurity risks?	**No.** The data being collected is just water flow and level which should not pose privacy risks to individuals.
		e) Can it be done equitably?	**Yes.** Sensors can be deployed throughout Joplin in order to avoid overflows anywhere.
 Financial		**f)** What is the cost of the proposed project?	Based on the cost of the sensors and respective systems for Kansas City and South Bend, estimate costs at $2.5M for Joplin's 400 mile sewer system.
		g) Is non-City funding available?	Cities have traditionally implemented by using their own funds or increasing water rates. Disaster recovery funding is available for flooded areas in Missouri. Green bonds may be used for water or transportation infrastructure. Cost savings are also accrued over time due to better controlling overflows.

Finding | Not really feasible unless an in depth cost-benefit analysis is conducted to justify large investment required.

PREDICTIVE ANALYTICS FOR OPERATIONS

FEASIBILITY STUDY (PART 1 OF 2)

Analytical model using prior data, 311 data, and other sources to prioritize resources in real-time or identify various things (e.g., pothole maintenance, crime hot-spots, homes at risk of vacancy, etc.). Simulation / AI system could eventually be built-out to test scenarios.

KEY STAKEHOLDERS

Joplin City Manager's Office

All Joplin Departments (for their respective datasets and challenges to solve)

OBJECTIVE |This would help realize the shift from reactive to proactive services.

CONSIDERATIONS

Data is at the heart of this initiative with data governance, quality, and culture being important components.

Analyses are only as good as the data inputted into them.

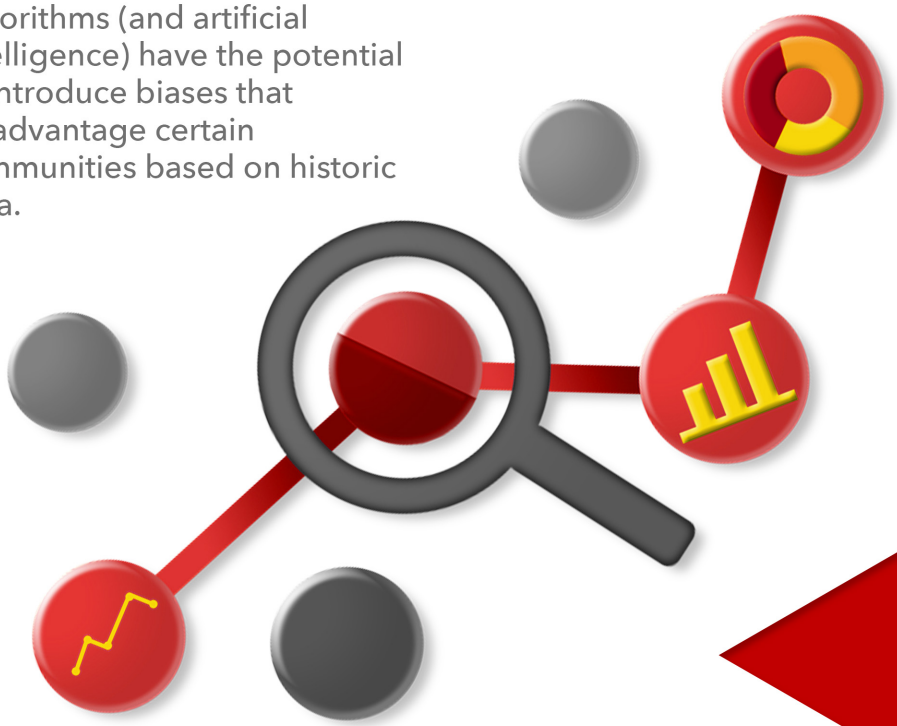
Because of the importance of data, City leadership should own this project with the delegation and prioritization of tasks (e.g., identifying datasets, adding metadata, cleaning datasets) to the individual departments.

Can either build these skills in-house or contract out to vendors – mix of both is likely necessary.

A Chief Data Officer (CDO) would be tremendously helping in planning Joplin's data future.

Streamlining processes through analytics works best when end users of the process are heavily involved and communication flows between the developers and the users.

Algorithms (and artificial intelligence) have the potential to introduce biases that disadvantage certain communities based on historic data.



PREDICTIVE ANALYTICS FOR OPERATIONS

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
Technical		**a)** Is the technology mature?	**Not Really.** Although some successful use cases have emerged in leading cities, using predicative analytics is still an emerging field for City operations with relevant use cases for Joplin still to be discovered.
		b) Can Joplin implement with current workforce and assets?	**No.** Joplin does not yet have the workforce in order to complete this project (e.g., data scientists).
Social		**c)** Have stakeholders expressed interest?	**Somewhat.** City interviewees expressed interest in becoming more proactive as opposed to a reactive current state which predictive analytics can help address, but is not the only option to accomplish this indicated goal.
		d) Are there privacy or cybersecurity risks?	**Potentially.** It depends on what process is being investigated, but predictions could lead to insights at the person-by-person level.
		e) Can it be done equitably?	**Yes.** There is no reason that the insights from these analyses could not benefit all residents of the City.
Financial		**f)** What is the cost of the proposed project?	Hiring a (CDO) could cost around $112,327 based on estimates from Kansas City adjusted for cost of living
		g) Is non-City funding available?	Although little non-City funding would be available for staffing costs (except potentially an NSF grant), expected operational savings and efficiency from analyses could help pay for itself.

Finding | Not feasible in short term but Joplin can start building data culture with single hire/student fellowship.

ASSET LOCATION AND PERFORMANCE TRACKING

FEASIBILITY STUDY (PART 1 OF 2)

City-owned asset (e.g., mower, snow plow, fleet, etc.) is tracked with sensors or other technologies like Light Detection and Ranging (LIDAR) to monitor key characteristics (e.g., asset utilization, usage behavior) for improved asset management and maintenance.

OBJECTIVE | Allows for improved operational efficiency and predictive maintenance.

KEY STAKEHOLDERS

- *Joplin Department of Information Technologies*
- *Joplin Police Department*
- *Joplin Fire Department*
- *Joplin Department of Public Works*
- *Joplin Department of Finance*

CONSIDERATIONS

Dependent on availability of an internet network to communicate data back to a processing system.

For location tracking, can use technologies like Global Positioning System (GPS) or radio frequency identification (RFID) depending on the use case and the availability of a power source.

Battery lifetime and cost are barriers to the deployment of these devices.

Currently fleet management is one of the most common use cases, but asset tracking of items like machinery, tools, containers, or equipment will continue to grow.

Beyond knowing an assets location, asset tracking can help the City understand an asset's utilization and performance to be able to proactively predict when it needs maintenance.

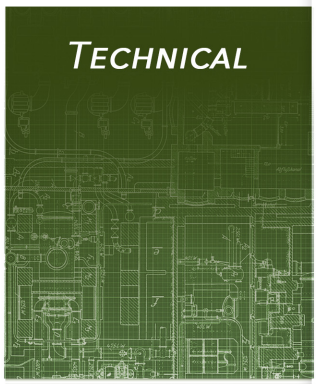
This project can work closely with the centralized data platform project in order to ensure an asset management function is built into the platform.



ASSET LOCATION AND PERFORMANCE TRACKING

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
 Technical		**a)** Is the technology mature?	**Somewhat.** GPS technology has been around for many years and cities have often used it for snow plows or other fleet vehicles; however, advances in machine learning are predictive maintenance are still emerging.
		b) Can Joplin implement with current workforce and assets?	**Somewhat.** The City is likely prepared to deploy GPS devices on their fleet vehicles, but may be less able to use analytics to reach the predictive maintenance phase.
 Social		**c)** Have stakeholders expressed interest?	**Somewhat.** The City expressed interest in the project but as it is predominantly for City purposes, external stakeholders may not have a need for this project.
		d) Are there privacy or cybersecurity risks?	**Yes.** Installing the technology on fleet vehicles means that City employees can be tracked and located.
		e) Can it be done equitably?	**Yes.** There is no reason why this project can not be applied for the benefit of the entire City.
 Financial		**f)** What is the cost of the proposed project?	Total cost dependent on functionality and number. Costs range from $15-$150 per month per asset to track the asset and collect data.
		g) Is non-City funding available?	As it would be a City internal project, external funding is unlikely to be found unless the argument is made that the asset tracking for important emergency assets could help during a disaster. Predictive maintenance function also has potential to save money.

Finding | Not feasible unless priority assets with costly maintenance needs are identified and prioritized.

DIGITAL KIOSKS

FEASIBILITY STUDY (PART 1 OF 2)

Interactive displays that provide public Wi-Fi and other information services within community (e.g., on Main Street to provide advertisements for local businesses, restaurants, events, etc. or trolley shelters for arrivals).

OBJECTIVE |Provide access points to services, wayfinding, access point to Wi-Fi.

KEY STAKEHOLDERS

- *Joplin Office of Public Information Officer*
- *Joplin Department of Public Works*
- *Joplin Department of Planning, Development & Neighborhood Services*
- *Chamber of Commerce*
- *Liberty Utilities*

CONSIDERATIONS

Each kiosk needs to be connected to fiber and power to be able to function.

Kiosks will need to be strategically placed in either areas of high foot traffic or priority locations.

Kiosks can sell ad space to generate revenue and eventually pay for themselves.

Ads can be for local restaurants and businesses, national companies, or even other cities (and similarly, Joplin ads could be shown in other cities like Kansas City or Branson).

Kiosks can act as platform for IoT sensors and public Wi-Fi to provide a variety of benefits

Potential to integrate with See-Click-Fix app to maximize reach.

Digital kiosks can also be deployed at trolley stops to provide times and other information.



DIGITAL KIOSKS

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
Technical		**a)** Is the technology mature?	**Yes.** This technology has been deployed and in use by the city of Kansas City (and several others) for several years.
		b) Can Joplin implement with current workforce and assets?	**Yes.** An outside vendor (e.g., Smart City Media) could come in and deploy fairly quickly.
Social		**c)** Have stakeholders expressed interest?	**No.** Neither City nor external stakeholders rated this project highly during prioritization workshops.
		d) Are there privacy or cybersecurity risks?	**Potentially.** This is dependent on the type of sensors and data collected by each kiosk. If no data is collected, there is no concern.
		e) Can it be done equitably?	**Potentially.** Locations are dependent on availability of fiber and power which may not be equitably distributed.
Financial		**f)** What is the cost of the proposed project?	**Somewhat.** Capital costs for Branson ranged from $27,575 - $39,675 depending on type of kiosk with a moderate operating cost of a few hundred dollars.
		g) Is non-City funding available?	**Yes.** Based on meetings with Kansas City, it is believed that capital cost would be made up through ad revenue with 50% of the revenue going to the City and the other 50% going to the vendor if City can pay capital costs. If not able to, can enter 25% revenue share agreement.

Finding | Feasible to implement in short-term but must prove that they are needed, will pay for itself, and strategically located.

JOPLIN ALERTS

FEASIBILITY STUDY (PART 1 OF 2)

Notifies citizens of issues in Joplin (i.e., are not national alerts). These events can include street repairs, police activity, and emergency situations such as flash flooding events.

OBJECTIVE | Provide faster warning of events occurring in the immediate Joplin area thereby increasing public safety and convenience for citizens to avoid delays.

CONSIDERATIONS

SeeClickFix app is already in development in the City and this can be a potential module.

Creating system at county level is possible and could be considered to expand notifications beyond City of Joplin limits; this would also allow easier communication of emergencies across jurisdictions.

Potential savings may be realized if alert system done at county level with multiple cities signing up.

Joplin is in-between two counties so even more coordination would be required Success of app may be dependent on citizen adoption.

App could include traffic alerts or trolley information to help people move throughout Joplin.

KEY STAKEHOLDERS

- *Joplin Department of Information Technologies*
- *Joplin Office of Public Information Officer*
- *Joplin Department of Emergency Management*
- *Joplin Department of Public Works*
- *Joplin Police Department*
- *Joplin Fire Department*
- *Jasper and Newton Counties*



JOPLIN ALERTS

FEASIBILITY STUDY (PART 2 OF 2)

- Not Feasible Soon
- Feasible Soon
- Feasible Now

	Rating	Criteria	Assessment
Technical		**a)** Is the technology mature?	**Somewhat.** Early alert apps are still be tested and deployed in many places around the US.*
		b) Can Joplin implement with current workforce and assets?	**Yes.** As app can likely be built into SeeClickFix, the development and maintenance could potentially be managed by Joplin IT or done in-house.
Social		**c)** Have stakeholders expressed interest?	**Potentially.** City stakeholders expressed interest in app and its potential to increase public safety, but public has not weighed in and ultimately they would be the users.
		d) Are there privacy or cybersecurity risks?	**Potentially.** Potential privacy risk if citizens create profiles on the app and submit personal data.
		e) Can it be done equitably?	**Potentially.** Citizens may need smartphones in order to receive alerts if built through an app (mass texting notification system is possible).
Financial		**f)** What is the cost of the proposed project?	**Yes.** Estimated annual cost of around $10,000 based on SeeClickFix app and cost of similar apps in Randolph and Cole counties [???]. Average cost around $0.20/person.*
		g) Is non-City funding available?	**Somewhat.** Will likely need to use City funds or split the cost at the county level, but if app is expanded, some vendors can do work without charging City (they charge citizens when paying government).

Finding | Feasible in short term but would need to coordinate with public, County, and SeeClickFix deployment.

*Based on 8 examples of similar apps across US (3 of which in Missouri) and not including any where vendor paid for app development costs in exchanging for charging citizens.