



IMAGINE FLINT

CAPITAL IMPROVEMENT PLAN FOR A SUSTAINABLE FLINT

Adopted: January 26, 2015 • HOUSEAL LAVIGNE ASSOCIATES • DLZ MICHIGAN, INC.

www.imagineflint.com





The introduction to the Capital Improvement Plan (CIP) is divided into three sections:

- What is a Capital Improvement Plan?
- Why Prepare a CIP?
- How Does the CIP Relate to the Master Plan?

WHAT IS A CAPITAL IMPROVEMENT PLAN?

A Capital Improvement Plan (CIP) is a multi-year program for expenditures by the City of Flint for rehabilitation, replacement, and balancing of the City's municipal infrastructure systems. Projects considered through the CIP process involve proposed investments in the City's infrastructure and facilities, such as police and fire stations, parks and recreation facilities, community centers, offices, roads and sidewalks, and utilities.

Definition of Capital Improvements

Capital improvements are permanent physical improvements, generally expected to have a normal life of ten years or longer. Equipment and objects needed for day-to-day use are generally not considered capital improvements. Smaller projects and projects that are intended to last for fewer than ten years are funded through the City's operating budget.

CIP and Budgeting

A CIP is typically prepared and adopted annually by the Planning Commission and is presented as a recommendation to the Mayor and the City Council. Each year, the plan identifies the physical needs of the City's departments, estimates the costs of proposed projects, and recommends expenditures and sources of funding for priority capital improvements.

As such, the CIP plays an integral role in the process of formulating the City's annual capital budget. The City of Flint has not developed a formal CIP in many years. With the development and adoption of the first Master Plan in over 50 years, the City has also developed this CIP.

CAPITAL IMPROVEMENT PLANNING IN FLINT

The City of Flint has been plagued by unprecedented population loss, with an 18% decline in population between the 2000 and 2010 census. The loss of population, and subsequent decline in local tax revenue and state-shared revenues, have had a significant impact on the City's finances. This severe lack in funding both at the state level and locally has led to troubled financial standing for the City over the past decade.

That being said, however, significant progress has been made in addressing these financial issues with the approval of a two-year, FY15-FY16 budget leading the way. By the end of FY14, the City will stand with a \$9 million deficit, down from \$12.9 million at the end of FY13 and \$19.1 million in FY2012. On top of a two-year budgeting process, the recent approval of a 5-year City Strategic Plan is beginning to set the City on a chartered course of solvency rarely seen over the years.

BENEFITS OF THE CIP

- Assists in implementation of the Master Plan
- Identifies both short- and long-term capital expenditures to allow budgeting
- Determines regular maintenance needs for City facilities so they remain viable
- Provides for a more effective evaluation of alternatives and solutions than the crisis-decision process
- Enhances opportunities for grants by allowing for long-term planning
- Provides the ability to stabilize debt and consolidate projects to reduce borrowing costs
- Serves as a public relations and economic development tool
- Allows for a focus on preserving infrastructure while ensuring efficient use of public funds
- Provides opportunities for cooperation between departments and other units of government, such as Genesee County and Flint Community Schools, by pooling resources to reduce costs in some instances

A Common Issue

The City of Flint, like many municipalities in the United States and the State of Michigan, has witnessed a substantial decrease in property tax and income tax revenues while experiencing reductions in state-shared revenues reduced as well.

With less money coming in, younger communities with relatively new infrastructure have been able to cope with severe budget reductions by postponing planned infrastructure installation or expansion. In established communities like Flint, however, budget cuts and historical poor planning have led to continued deferred maintenance on existing infrastructure. This has often resulted in deterioration that now requires significant expenditures to catch up, and requires substantial cash flow that is non-existent.

Many of the improvements listed in the CIP are a direct response to both the years of neglect due to severe budgetary issues and the fact that there has not been a Master Plan or comprehensive CIP developed for the City in decades.

Rising Costs of Deferred Maintenance

Providing ongoing maintenance, such as resurfacing streets and repairing or replacing leaky roofs, is vital for maintaining the condition of assets. When maintenance is not fully funded, it contributes to rising capital costs. The City has not funded required maintenance on most facilities due to tight budgetary constraints and competing priorities. As a result, the City has a large backlog in deferred capital projects which is likely to increase as more information is collected on the actual condition of City facilities. Compounding the problem, as assets continue to deteriorate the cost of repair will exponentially increase and can result in peripheral damage. For example, deferring roof replacement could later result in needing to replace the roof structural members, walls, and floor of a building.

The practice of deferring maintenance on capital projects is not unique to Flint. Many Cities throughout the nation have felt victim to this practice, but very few currently face the magnitude of challenges presented in Flint. The combination of population loss, aging infrastructure, and deferred maintenance has led to emergency upgrades occurring at inopportune times, negating attention to system-wide necessary improvements occurring simultaneously.

Getting the Most out of Existing Planning Documents

Important steps have been taken following the adoption of the City's Master Plan. The adoption of a 5-year strategic plan, 2-year budget, and improved asset management should drive City decision making into the coming years. These detailed plans provide the City with options to make its limited capital resources work more efficiently.

City Budget

Making progress on the budget deficit has required difficult decisions and sacrifices, including dedicating minimal resources to capital improvements beyond emergency repairs. The FY13 and FY14 budgets were balanced through a mixture of significant revenue increases, significant expenditure decreases, and steps taken to reduce legacy costs. Revenue was raised through a 25% increase in water and sewer rates, passage of a 6 mill property tax increase for police and fire, establishment of a special assessment district for street lighting, and implementation of a fee sufficient to cover the cost of waste collection.

Expenditure reductions included elimination of 20% of the City's workforce, compensation decreases equivalent to a 20% wage reduction for remaining employees, and the restructuring of health and retirement benefits for current employees and retirees necessary to develop a credibly balanced spending plan. The City continues to work towards a process of realistic budgeting that will enable capital needs to be planned for, rather than reacted to.

Bonding Capacity

A factor that greatly impacts the ability of the City to implement capital improvements is its limited bonding capacity. Municipalities commonly bond against future revenues to make significant capital improvements, with the bonding capacity and interest rates being impacted by a number of factors, particularly the bond rating given to the community. The lower the bond rating, similar to an individual person's credit rating, the higher the interest rate the City pays.

In addition, Section 7-302 of the City Charter and the State of Michigan, limits "net" debt to 7% of Assessed Valuation, thus restricting the amount the City can borrow. The City has already pledged revenue of the Water Enterprise Fund, net of operating expenses, to repay the Drinking Water Revolving Fund Revenue Bonds (DWRF). Financial Recovery bonds issued by the State of Michigan and the DWRF Revenue Bonds have been secured with future State revenue-sharing payments to be received by the City's General Fund.

Taking this into account, the City technically still retains borrowing capacity without exceeding statutory limits, but given its current financial condition, it is precluded from engaging in major borrowing for capital improvement projects on its own for the next several years. A prime example of this case was the City's inability to borrow on its own for the development of the KWA, where the City's participation was enabled only because of a County pledge to cover City obligations, if it failed to do so itself.

Water Rates and Infrastructure

The City has opted to discontinue purchasing water from the Detroit Water and Sewerage Department. Modifications have been and continue to be made to supply water customers with treated water from the Flint River until the new source of water from Lake Huron is available by way of the Karegnondi Water Authority (KWA). The water treatment plant has also been upgraded to process raw lake water received through the KWA line.

Improvements to the City's water system are needed, not necessarily to allow for separation from Detroit prior to the changeover; but to maintain and replace water system components that are in dire need of improvement or replacement regardless of the water source. Previous studies have shown the current system to have very low efficiency, with losses up to \$2.0 million annually.

The combination of critical improvements and upgrades to the water system and a decrease in the overall amount of consumers purchasing water from the City has led to significant water rate increases over the past few years. With an average monthly water bill of over \$140/month, many City residents struggle with the high rates. With the water system being established as an "enterprise fund", the per consumer rate is dependent on the total amount of paying customers on the system. The City should continue to promote and work to enhance awareness of programs such as "Keep The Water Flowing" initiative aimed to reduce the monthly costs to City residents.

Water system efficiency analysis indicated that the City of Flint system is at 68.41% (i.e., only 68.41% of the water that was purchased from Detroit was recovered by user fees). This indicates that the City has significant leaks, inaccurate meters, and/or illegal connections to the system. This inefficiency results in lost revenue in the range of \$1.5 million to \$2.0 million dollars per year. A program to improve the water system efficiency should be put in place. A high priority should be placed on implementing a program to reduce the unaccounted for water.

Other Influencing Factors

In addition to adopted City policy, including the recommendations of the Master Plan, several factors and recent or on-going initiatives have shaped the development of the CIP. These influencing factors include:

- Most City facilities are in urgent need of upgrades, repair, and/or replacement of critical components, such as HVAC systems, roofs, parking lots, sidewalks, plumbing and electrical systems, security upgrades, lighting, windows, etc., and there are several buildings that are closed and not being used. Completion of some energy efficiency and other projects may result in long-term net savings but require initial capital outlays. The CIP calls for several facility assessments to determine the future viability of facilities and prioritize where investments are placed.
- The City owns and operates several dams that are critical to the water supply for the City, as well as for recreational uses. All of them require varying amounts of rehabilitation and repair, with some being mandated to be removed as they are not viable and provide no purpose given the current drinking water system design.
- Inflow and infiltration (I/I) into the sanitary sewer results in significant amounts of water being treated that is clean. Much of the I/I is at manholes and perforated manhole covers in floodplain areas that are regularly under water.
- The street system in the City has severely deteriorated pavement conditions. A Pavement Surface Evaluation and Rating System (PASER) study in 2012 found only 8% of Federal-Aid eligible City streets to be in good condition. Condition of local streets is assumed to be similar and estimates for repair of local streets exceed \$50 million.
- Sidewalks throughout the City are in unsatisfactory condition and have an estimated unmet need of \$40-85 million for repairs. These sidewalks are old, cracked, have separations and heaving that are potential safety hazards, creating accessibility issues for persons with certain disabilities. Grants have been used to repair sidewalks in eligible areas but do not result in significant progress to handle needs. Though no detailed inventory is known to exist, it is also extremely likely that a significant number of curb ramps in the City are in poor condition, create access issues for persons with disabilities, and do not meet current standards under the Americans with Disabilities Act.

Current City ordinance requires property owners to maintain their adjacent sidewalks. A 50/50 cost share program has the potential to expedite the repairs and improve accessibility throughout the City.
- Housing diversity is limited, particularly for multi-family housing. Much of the housing stock (82%) was built prior to 1970 and 14.1% of parcels contain houses in poor or substandard condition.
- Many residential parcels are vacant lots (22%) and there are thousands of blighted parcels in the City.
- Flint Community Schools (FCS) suffer from budget problems, outdated facilities, and loss of students. In 2013 alone FCS lost 1,144 students from 2012. Enrollment for the 2013-14 academic year was 84% lower than the peak numbers in the late 1960s. A number of FCS schools have been closed and many of them currently sit vacant awaiting demolition or reuse in some manner.

- The City park system, including over 67 facilities and 1800 acres, suffers from severe neglect. Lack of maintenance and upkeep and elimination of most staff and programs have resulted in many facilities being closed. Equipment at most parks is severely outdated and does not meet current design and safety standards, with many parks plagued by trash and graffiti. Over 20 parks are currently cared for through volunteer-led park tenders and park keeper initiatives. This helps reduce the overall cost of waste and trash abatement, but not overall mowing costs, as these groups do not have the capacity to mow many parks.
- Budget issues have led to reductions in staffing and service levels for many departments. Since 2002, the Parks and Recreation Department has eliminated 89 staff positions, leaving one half-time staff with some accounting support. Currently 55 parks are mowed by outside contractors.
- Between 2008 and 2014 there has been a reduction of 115 police officers. Total City staff between FY11 and FY14 fell from 792.5 to 565, a decline of almost 30%.
- Flint has certainly had a problem with violent crime. In 2012 the City had 62 murders per 100,000 people, compared to a nationwide rate of 4.7 per 100,000. Detroit, St. Louis, Chicago, and Gary had 54.6, 35.5, 18.5, and 46 respectively (all per 100,000).
- However, violent crime has been declining significantly. From Jan 1 to Nov 1 of 2014 there have been only 29 murders. That compares to 42 through the same period in 2013. Both are down considerably from 2012. In 2012 there were a total of 2,774 violent crimes in Flint. Through Nov 1 of 2014 there have been only 1,331. From Jan 1 to Nov 1 of 2013 there were 1,537 violent crimes. This data indicates that violent crime is clearly trending down.
- Property crime in Flint has declined as well. In 2012 there were 5,554.4 property crimes per 100,000. Higher than the nationwide rate of 2,859.2, but not as bad as St. Louis (6,902.2), Detroit (5,792.1), or Cincinnati (6,135.3). Again, property crime is also trending down. Using raw numbers (not population adjusted), there were 5,645 property crimes in Flint in 2012. From Jan 1 to Nov 1 in 2013 there were 3,775 and from Jan 1 to Nov 1 in 2014 there were 3,559. Unless there is a big spike in property crime to end the year, Flint will have approximately 4,400 property crimes in 2014 – which would be about 20% less than 2012.

WHY PREPARE A CIP?

THE BENEFITS OF CAPITAL IMPROVEMENT PLANNING

Over time, public facilities need major repair, replacement, or expansion and maintaining and upgrading a community's capital assets requires significant financial investment. This investment must be weighed against other community needs and analyzed in light of community goals. The City of Flint, like many cities, is under pressure to make efficient use of capital resources and must make difficult choices. There are more needs than can be satisfied at once, and the selection of one investment over another may shape the development of the City for years to come.

Capital improvement planning is a valuable tool to ensure that choices are made wisely. The City's development goals are implemented, in part, by the careful provision of capital facilities. The benefits of this systematic approach to planning capital projects include:

- **Focused attention and coordination with community goals, needs, and capabilities** – By developing a CIP, capital projects can be brought into line with the City's long-range plans by balancing identified needs with financial capacities. Considered individually, a building renovation, park system improvement, and street widening may all be viable projects, but each project may look quite different when, in the course of the CIP process, it is forced to compete directly with a number of other projects for limited funds.
- **Optimizes use of the taxpayer's dollar** – The CIP helps the Mayor and City Council make sound annual budget decisions. Careful planning of capital improvements helps prevent costly mistakes. In addition, capital planning allows the City to save money in several other ways.
- **Guides redevelopment and growth** – The location and capacity of capital improvements shape the growth and redevelopment of the City. City decision-makers can use the CIP to develop well-thought-out policies to guide future land use and economic development that are consistent with the implementation of the Master Plan.
- **Encourages coordination between departments** – Participatory efforts of multiple City service units in the planning and coordination of capital improvement planning reduces scheduling conflicts and ensures that high priority needs are addressed before those of a lower priority. In addition, the CIP can be used to promote innovative management techniques and improve governmental efficiency and effectiveness by combining projects within the same area to provide a lower overall cost than if the projects were constructed separately.
- **Improves the basis for intergovernmental and regional cooperation** – Capital improvement planning offers public officials of all governmental units (City of Flint, MDOT, Genesee County, Flint Community Schools, Genesee County Metropolitan Planning Commission, Mass Transportation Authority, etc.) an opportunity to plan the location, timing, and financing of improvements in the interest of the community and region as a whole. Advanced planning also allows these entities to seek funding opportunities that may have limited availability otherwise and provide the potential for coordination/cost-sharing for projects that span community borders and jurisdictions of the various governmental entities.

- **Maintains a sound and stable financial program**

– Unplanned emergency expenditures can endanger the financial well-being of the City, as the lack of ability to plan generally leads to higher costs. Sharp changes in the tax structure or bonded indebtedness may be avoided when construction projects are planned in advance and scheduled at intervals over a number of years. When there is ample time for planning, the most economical means of financing each project can be selected in advance. The CIP can help the City avoid commitments and debts that would prevent the initiation of other important projects at a later date.

- **Enhances opportunities for participation in Federal or state grant programs**

– Preparing and regularly updating a CIP improves the City's chance of obtaining aid through Federal and state programs that provide funds for planning, construction, and financing of capital improvements. By knowing which projects are planned, eligibility can be determined and specific grants sought for eligible projects. The CIP should include projects that can be started quickly by having construction documents ready should grant funds become available.

LEGAL BASIS FOR THE CAPITAL IMPROVEMENT PLAN

State of Michigan

The State of Michigan provides for the development and use of a capital improvement plan in the Municipal Planning Act (Section 125.3865, Act 33 of the Public Acts of 2008).

“To further the desirable future development of the local unit of government under the master plan, a planning commission, after adoption of a master plan, shall annually prepare a capital improvements program of public structures and improvements, unless the planning commission is exempted from this requirement by charter or otherwise.”

If the planning commission is exempted, the legislative body either shall prepare and adopt a capital improvements program, separate from or as a part of the annual budget, or shall delegate the preparation of the capital improvements program to the chief elected official or a nonelected administrative official, subject to final approval by the legislative body.

The capital improvements program shall show those public structures and improvements, in the general order of their priority, that in the commission's judgment will be needed or desirable and can be undertaken within the ensuing 6-year period. The capital improvements program shall be based upon the requirements of the local unit of government for all types of public structures and improvements. Consequently, each agency or department of the local unit of government with authority for public structures or improvements shall upon request furnish the planning commission with lists, plans, and estimates of time and cost of those public structures and improvements.”

City of Flint

In addition, the City of Flint Charter (Section 4-504) reinforces the City's planning responsibility, with Section 4-505 calling for periodic review of the plan:

4-504 Comprehensive Plan –

“The Mayor shall propose and the City Council, after review by the Planning Commission, shall approve, with the modifications the Council deems necessary, a comprehensive plan of policies for the social, economic, and physical development and conservation of the City.”

4-505 Periodic Review of Plan –

“After approval of the plan, the Mayor shall annually propose any amendments necessary to keep the plan current; and the City Council, after review by the Planning Commission, shall consider the Mayor's proposed amendments and make the modifications in the plan that it deems necessary.”

CIP & ANNUAL BUDGET PROCESS

The City's Annual Budget itemizes and appropriates the funds needed for all municipal purposes. It is generally recommended that budgets separate out capital improvements from operating expenses to ensure a clear demarcation between the two.

The **Operating Budget** includes the day-to-day operational expenses of the City, such as salaries, supplies, and expenses for programmed activities.

A **Capital Projects Budget** would include the anticipated capital project costs. The first two years of projects contained in the Capital Improvement Plan should be the basis for formulating the Capital Projects Budget.

The City needs to strive to maximize resources by maintaining a balance between operating and capital budgets. A continuous relationship exists between the CIP and the annual budget and a direct link can be seen between the two documents, as there should be in a strategic planning environment. Budget appropriations lapse at the end of the fiscal year as the operating budget is funded with recurring annual revenues such as taxes, licenses, fines, user fees, and interest income.

Linking Planning to the Budget

The CIP plays a significant role in the implementation of a Master Plan by providing a link between planning and budgeting for capital projects. The CIP process precedes the budget process and is used to develop the capital project portion of the annual budget.

Approval of the CIP by the Planning Commission does not mean that they grant final approval of all projects contained within the plan. Rather, by approving the CIP the Planning Commission acknowledges that these projects represent a reasonable interpretation of the upcoming needs for the City and that projects contained in the first year of the plan are suitable for inclusion in the upcoming budget to be considered and ultimately approved by the City Council.

Priorities vs. Funding Availability

Priority rankings do not necessarily always correspond to funding sequence. For example, a road-widening project which is ranked lower than a park project may be funded before the park project because the road project has access to a restricted revenue source, whereas a park project may have to compete for funding from other revenue sources. A project's funding depends upon a number of factors – not only its merit, but also its location, cost, funding source, and logistics.

City Funds with Capital Spending Capacity

The City has specific Budgets from which various projects are funded. These include:

- 101 – General Fund for limited capital improvements
- 202 – Transportation (major Roads) fund
- 203 – Transportation (local roads) fund
- 204 – Park Fund (Millage)
- 402 – Public Improvement Fund (Millage) for capital building improvements
- 590 – Utilities (sewer) capital funds
- 591 – Utilities (water) capital funds

RELATIONSHIP BETWEEN THE CIP & CITY MASTER PLAN

The completion of the City's "Master Plan for a Sustainable Flint" in late 2013 has formed the basis for Flint's continued recovery. The Master Plan is the first in over 50 years and was the result of collaboration between City leaders, residents, and business owners to develop a vision for Flint's recovery efforts.

The CIP is intended to complement the Master Plan to ensure infrastructure can be provided to meet the goals of the Master Plan, with a clear definition of needs and priorities to assist in budget development annually. However, it must be noted that the City's capital needs far exceed available resources, even with additional funding from non-traditional sources (grants, donations, etc.). The condition of the facilities will require difficult decisions to be made regarding prioritization of CIP projects.

Comprehensive planning influences the programming of capital improvements. As noted above, state law reinforces that link by requiring that the Planning Commission annually prepare a CIP to support and implement Master Plan recommendations.

The City also provides a strong connection between the comprehensive plan and capital improvements in the form of short-range implementation strategies. In addition to the Master Plan, several other planning documents provide implementation recommendations that link the future vision of the community to relatively short-term actions.

These documents include, but are not limited to:

- Parks & Recreation Master Plan
- Flint Parks Assessment & Amenity Inventory
- Reimagining Chevy in the Hole
- Flint River Assessment
- City of Flint Water Reliability Study
- Flint River District Strategy
- City of Flint Water Supply Assessment
- Flint River Restoration Plan
- Flint Downtown Traffic and Parking Study
- Flint Street Lights Project
- City of Flint Water and Wastewater Rate Study
- Portfolio Energy Use Analysis
- Collection System Improvements State Revolving Fund Report
- Transportation Improvement Plan (TIP)
- City Strategic Plan

CIP as a Planning Document

The CIP is a planning document that serves to consolidate necessary projects associated with the City's various infrastructure asset areas. These needs are gathered primarily from findings of the City's master planning efforts and staff identification through the operations and maintenance of the City's facilities and systems. The CIP provides a methodology for addressing the infrastructure needs to allow staff to determine anticipated funding sources and schedules for the projects necessary to meet those needs, based on the priority, and the availability, of the financial and staffing resources to perform these projects.

Annual Update Process

The CIP is dynamic and needs to be re-evaluated at least annually. Each year all projects included within the CIP should be reviewed, a call for new projects made, and adjustments made to existing project lists arising from changes in the amount of funding required, conditions, or timeline. A new year of programming is also added each year to replace the year funded in the annual operating budget.

The CIP will continue to develop over time by adding features to gradually improve quality and sophistication. Greater attention shall be devoted to provide more detailed information about individual project requests, program planning, fiscal analysis, fiscal policies, and developing debt strategy.

Need for Further Study

A vast majority of Flint's infrastructure projects are not new infrastructure – it is the need to replace or rehabilitate and adjust the current aged facilities. The infrastructure in place supported a significantly higher residential population and industrial user base, so the infrastructure is generally prepared to support the “rebirth” of the City as described in the Master Plan. A number of studies and other investigations should be considered to verify CIP needs and benefits and assist in determining priorities and options, some of which are included in this report.

City Engineer

During the development of this CIP, the lack of an on-staff City Engineer provided many challenges. Without a previous combined CIP document to guide all departments within the City, data, materials, and information for the compilation of this CIP was extremely difficult to find and to retrieve. Once approved, the City finds itself in prime position to move forward efficiently and most effectively across all operations. However, the lack of a true city-engineer on staff provides many obstacles and limitations.

It is imperative that moving forward Flint possess a city-engineer that is tied into not only this CIP document, but aligns all efforts closely and in tandem with the Master Plan. Daily reference to these two documents, the City's strategic plan and the approved budget will only strengthen the City's ability to transform into a sustainable and vibrant community that provides excellent services for all Flint neighborhoods.

PUBLIC INVOLVEMENT

The City is committed to including the public in its recovery efforts and significant public engagement was included during the Master Plan process. Over 300 separate events, meetings, or workshops were held and attended by over 5,000 people. Nearly 130 residents made the additional commitment of serving on a Steering Committee or Advisory Group.

The public's participation in the CIP process is critical in guiding the decisions on priorities of expenditures, which need to be consistent with the implementation of the Master Plan. As the CIP is prepared annually, draft information should be posted on the City website for review by the public, as well as contact information for providing comments and feedback. Additionally, the City Planning Commission reviews the CIP and holds public input sessions to obtain feedback on the plan on an annual basis.

CIP OUTREACH PROCESS

The City led a non-traditional CIP community outreach process that included hosting 3 community wide input sessions and attended 15 neighborhood group meetings to discuss the draft CIP. Over 40 comments were received and addressed in some capacity during the draft review process.

Public testimony was heard before the Flint Planning Commission prior to approval and public comment was taken prior to City Council adoption. This outreach was crucial to recognizing the Civic Life guiding principal of the Master Plan, promoting better transparency, and incorporating public input into decision making.

PUBLIC INVOLVEMENT AFTER THE CIP PROCESS

Some of the projects included in the CIP are studies and planning efforts that should incorporate public involvement as an integral part of the project. The majority of the projects that are identified for implementation in the CIP are "traditional" municipal public works projects, such as water main replacements, road reconstructions, park development, government buildings, and structures.

Many of these traditional projects also include public involvement very early in their design process. Projects will become more complex as a result of new regulations, shifting and growing needs as the City's systems age, and new concerns and awareness by the community. As a result, the necessity to involve and engage the public even during the study and design at the project stage is recognized by the City.

This can be done using the methods discussed earlier that were part of the Master Plan, such as public meetings and workshops, stakeholder meetings, and open houses which take place as part of the actual design process for the project. The City involves the citizens, business owners and merchants, and other stakeholders in these processes. As a result, questions, concerns, and suggestions by the public can be reviewed and addressed in a much more efficient and cost effective manner than dealing with problems and issues encountered during the construction of the project.

Once underway, all City projects should make information available for the public, especially to those directly affected by the project. These efforts may involve informative items such as letters, newsletters, webpage articles, and announcements regarding the project, and in advance and during the actual construction of the project.



2015-2020 CIP POLICY

This CIP outlines a schedule of public expenditures over the ensuing six-year period. The CIP provides for large, physical improvements that are permanent in nature, including the basic facilities, services, and installations needed for the functioning of the community. These include transportation systems, parks, utilities, municipal facilities, and other miscellaneous projects. The CIP provides a list of high value capital budget items or projects for inclusion in the proposed Capital Budget of the City's Annual Budget Document.

Standards for Inclusion

The City's CIP is a document that initiates and tracks high expenditure capital projects, purchases, and programs. To qualify for inclusion in the CIP, a single project or a program of projects comprised of components of a common infrastructure or capital system (e.g., neighborhood park system, annual street program, etc.) must meet certain standards, which are to be set by the Planning Commission with assistance from City staff and input of residents.

General guidance on the standards for an item's inclusion in the CIP include that the project:

- Is consistent with an adopted or anticipated component of the Master Plan, a state or Federal requirement, or a City Council approved policy;
- Constitutes a permanent, physical, or system improvement in excess of an established cost or significant equipment purchases in excess of an established cost; or,
- Adds to the value or capacity of the infrastructure of the City.

Unfunded Needs

The CIP cannot address all of the capital expenditure needs for the City. As with other communities throughout the region, state, and nation, the City's infrastructure systems have needs that are growing at such a rate that they cannot be addressed within the span of a six-year CIP. Some identified needs cannot be addressed because of limits on the annual amount of available funding or staffing resources. Others cannot be addressed because of a lack of any applicable funding source, or perhaps policy or legal restrictions.

As a result, there are needs whose solutions cannot be implemented within the CIP. Rather than discard or ignore these items, they are included in the CIP as unfunded needs and are shown as being unfunded. This information will provide guidance to City staff in examining the limitations and restrictions currently in place and to seek alternative methods to achieve solutions to these needs.

Operational & Maintenance Needs

Many cities include within their annual budget an Operations and Maintenance (O&M) Budget and a Capital Projects budget. Projects that are considered operational, maintenance, or recurring are typically excluded from the CIP, but are captured in the O&M Budget portion of the Annual City Budget Document.

In this first CIP, some O&M projects are included in the CIP. A separate O&M budget should be developed in future years to include the items that have a regular schedule for maintenance or replacement, such as:

- Minor bridge rehabilitation;
- Minor street repairs and filling of potholes;
- Replacement of roofs, doors, windows, etc.;
- Parking lot reconstruction;
- Computer system upgrades;
- Hydrant and water valve replacement;
- Security system upgrades; and,
- Water meter replacement.

Capital Projects Budget

Approval of the CIP by the City Council does not mean that the Council grants final approval or authorization for all the projects contained in the plan. Rather, by approving the CIP Council acknowledges they agree that these projects represent a reasonable interpretation of the upcoming needs for the City, with the projects contained in the first two years of the plan being the basis for the City's next Capital Projects Budget. Until a project is contained within an approved annual budget and funding is identified, projects and schedules for each item included in the CIP are only guides that are likely to be changed as conditions change.

ASSIGNING PRIORITY

The following classification system has been used to prioritize capital improvement needs and is used in the list of CIP projects in this document:

- **PRIORITY 1 – URGENT**
Urgent, high-priority projects that should be done if at all possible.
These include projects that are required to comply with a Federal or state requirement; projects that would address an emergency or remedy a condition dangerous to public health, welfare, and safety; projects that would provide facilities for a critically needed community program; projects needed to correct an inequitable distribution of public improvements in the past; projects that have received funding from an outside source such as grants; and projects vital to the economic stability of the City.

A special effort is made to find sufficient funding for all of the projects in this group, realizing that this is not feasible given the significant needs. Of particular importance are projects that have grant funding awarded and have commenced utilizing that funding, as repayment of the grant funds would be required if the projects are not completed.

- **PRIORITY 2 – IMPORTANT**
High-priority projects that should be done as funding becomes available.
These include projects that would benefit the community and projects whose validity of planning and validity of timing have been established. Some projects assumed to have grant funding are included in this category.
- **PRIORITY 3 – DESIRABLE**
Worthwhile projects to be considered if funding is available.
These are projects that are adequately planned, but not absolutely required, and should be deferred to a subsequent year if budget reductions are necessary. These projects may end up being included within a funded portion of the CIP if alternative sources of funding are identified.

CIP PROJECT NARRATIVES

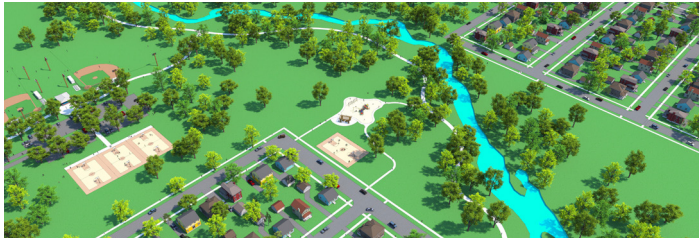
The CIP includes an extensive inventory of capital improvement projects proposed for inclusion in the proposed Capital Budget of the City's Annual Budget Document. As a planning document with a direct impact on the physical make-up of the City, the projects included in the CIP should support long-term City policy established in the Master Plan.

Master Plan for a Sustainable Flint

The Master Plan utilizes an innovative “placemaking” approach, which defines desired places within the City. While traditional approaches to City planning are often concerned with the specific “uses”, the Land Use Plan builds on the idea of establishing unique and desirable places. The Place-Based Land Use Plan is the central component of the Master Plan, the implementation of which individual capital projects should work toward.

Master Plan Place Types

The Land Use Plan establishes 12 distinct place types within the City that provide for various land uses and types of places, essential for creating a harmonious and inviting community in which to live, work, and visit. The following summary highlights the intent of each place type. Chapter 4: Land Use Plan of the Master Plan provides detailed descriptions accompanied by a series of implementation strategies for each place type.



Community Open Space

Community Open Space areas are designated where parks, open spaces, and environmental features predominate. These areas are defined by: large natural features, such as large greenways along the Flint River, Swartz Creek, Gilkey Creek, and Kearsley Creek; areas around Thread Lake, Kearsley Reservoir; and Flint Park Lake; large wooded areas and urban forests; and, other City parks and open spaces.



Green Neighborhoods

Flint's Green Neighborhoods are areas where previously vacant or underutilized properties have been repurposed. They have become low-density, residential neighborhoods with a significant amount of land dedicated to green uses, community gardens, small-scale urban agriculture, and small open space areas.



Traditional Neighborhoods

The Traditional Neighborhood is the building block of the Flint community. It is where most people live and families are raised, in primarily detached single family homes. Flint's Traditional Neighborhoods are supported by various other uses including schools, community centers, religious institutions, and parks.



Mixed Residential

Mixed Residential areas are generally concentrated around Downtown, providing a local population to help patronize Downtown businesses. Mixed Residential areas are also situated along busy corridors, providing an opportunity for transit-oriented development and more robust commercial services.



Neighborhood Centers

Neighborhood Centers are a focal point of Flint's neighborhoods and are distributed throughout the City. Neighborhood Centers are primarily located at the intersection of busy streets that provide ease of access for nearby residents and contribute to the overall activity of the area.



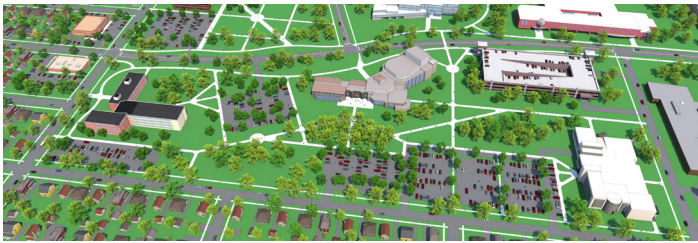
City Corridor

City Corridors are situated along Flint's busiest roads, providing areas for a range of activities on parcels easily accessible by automobiles and serviced by transit. City Corridors leverage the economic potential of traffic and help minimize land use incompatibilities by containing a variety of uses in manageable areas throughout the City.



Downtown

Downtown is a dense and vibrant mixed use area near the geographic center of the City along Saginaw Street, between the Flint River and Interstate 69. Downtown is, and should continue to be, a compact area consisting of a variety of uses that together provide and foster an active pedestrian-oriented area.



Civic/Cultural Campus

As home to Mott Community College, the Flint Cultural Center, and the Flint Central High School campus, the Civic/Cultural Campus is a unique area of the City. The Civic/Cultural Campus is a unique place type consisting entirely of institutional and public uses and any redevelopment within this place type should consist of uses that complement or strengthen the existing campus.



University Avenue Core

Flint's University Avenue Core is a unique area of the City, home to Hurley Medical Center, Kettering University, Atwood Stadium, and General Motors Tool and Die. These anchor institutions form the central component of a high-intensity district outside of Downtown Flint.



Commerce and Employment Centers

Commerce and Employment Centers are areas where the development pattern is focused around a community anchor such as a large employer, regional commercial center, or a cluster of smaller employment-related uses. Commerce and Employment Centers can attract a significant number of workers and visitors from outside of the community.



Production Centers

Production Centers are designated where the City's major industrial centers and economic generators exist such as GM's Flint Truck Assembly and portions of the Buick City site. These intense industrial uses are capable of generating considerable noise, traffic, and other nuisances and should be separated from residential and commercial areas.



Green Innovation

The deindustrialization of the City has resulted in a significant population decline and areas of Flint that once consisted of fully built out neighborhoods are now vacant. Areas of Green Innovation represent significant redevelopment opportunities that hold the potential for a variety of eco-friendly and sustainable solutions to repurpose large vacant areas and help reinvent the City.

CIP ORGANIZATION

Several areas of the Master Plan identified infrastructure/capital projects and the CIP maintains the same chapter structure to enable a one-to-one comparison between CIP projects and Master Plan policy. The CIP is organized into the following chapters:

- Chapter 1 – Introduction & Overview
- Chapter 2 – Reading & Using This CIP
- Chapter 3 – Housing & Neighborhoods
- Chapter 4 – Transportation & Mobility

- Chapter 5 – Environmental Features, Open Space, & Parks
- Chapter 6 – Infrastructure & Community Facilities
- Chapter 7 – Economic Development & Education
- Chapter 8 – Public Safety, Health, & Welfare
- Chapter 9 – Moving Forward

To assist with implementation of the Master Plan and align CIP projects with long-term City policy, the CIP has been organized around the core chapters of the Master Plan. The CIP includes several sections with corresponding Master Plan chapters, including those in the below table.

CIP ORGANIZATION	
CIP CHAPTER	MASTER PLAN CHAPTER
3	Chapter 5 – Housing & Neighborhoods
4	Chapter 6 – Transportation & Mobility
5	Chapter 7 – Environmental Features, Open Space, & Parks
6	Chapter 8 – Infrastructure & Community Facilities
7	Chapter 9 – Economic Development & Education
8	Chapter 10 – Public Safety, Health, & Welfare

Grouped CIP Projects

Within each section, CIP items have been largely grouped based on the various sections and sub-headings contained within the Master Plan. This will enable a one-to-one comparison between City policy identified in the Master Plan and the projects identified in the CIP. So, for example, improvements to traffic signals along Pierson Road directly relate to the “Technology & Wayfinding” section of the Transportation & Mobility chapter.

In some sections the categories are further subdivided to ensure there is clear delineation of needs for departments. This is most significant for the Infrastructure & Community Facilities section, which is subdivided for City Hall, miscellaneous City facilities, Water Department, and Sewer Department subsections in the CIP.

Project Summaries

A summary is included at the beginning of each chapter that lists the total number of projects and known costs.

Note that this information is subject to change as additional information becomes available. As such, the project summaries are intended for informational purposes only and should not be relied upon for planning or budgeting purposes. The project summaries simply provide an overview of the projects for each chapter to provide the reader with a broad overview of the significance of the capital needs.

Information Sources

Capital projects and costs listed were obtained from a variety of sources, including:

- Lists of capital projects provided by various departments;
- Applications prepared by the City for various grants; and,
- Previous studies prepared by the City, other governmental entities, or consultants on behalf of either.

In some cases, projects listed have had very little detail prepared and cost estimates have been approximated based on the anticipated scope of the project. It is very likely that many of the costs noted for various projects will vary, sometimes considerably, when additional information or analysis is obtained.

READING CIP PROJECTS

All projects have the following information provided:

- **Project Name** – a short description of the project.
- **Project Narrative** – provides additional detail about each project that is known at the time of the CIP completion. The exact extent of the scope of all projects may not be known at this time, but the narrative does give additional detail that is not always obvious in the Project Name.
- **Priority** – as discussed previously, all projects were given a priority based on their need. Priority is provided for projects on a case-by-case basis and there is no ranking between projects either within a department or between departments. In considering the priority, a number of factors were considered. Of primary importance was how the project might assist in implementation of the Master Plan, as well as other plans (e.g., Strategic Plan), provide a long-term cost savings or other similar benefit (e.g., roof replacement/repair prevents interior water damage to a building), or is required as a regulatory requirement (e.g., dam repair required by the state).

Priorities are stated as:

1. **URGENT**: projects that should be done if at all possible, including most grant funded projects, particularly those that have funding already approved.
2. **IMPORTANT**: projects that should be done as soon as funding is available, including some project assumed to be at least partially grant funded.
3. **DESIRABLE**: worthwhile projects that can be deferred if needed.

Projects have also been ordered within each priority group such that the most important projects are at the top of the list and least important at the bottom. For example, various roadway improvements are listed as '2 – IMPORTANT', but some projects should be implemented ahead of others within that priority group based on their location and the place type they serve.

- **Total Cost** – the total cost of the project, which may be a one-time cost, multi-year, or continuous. For continuous cost projects (i.e., projects such as watermain replacements done every year on a 20-year cycle), the total cost shown is for the 20-year CIP duration.
- **City Cost Share** – the portion of the total cost assumed to be the responsibility of the City.
- **Non-City Funds** – funding provided by grants, donations, or other sources not part of the City's budget.

With regard to City cost share, unless a non-City fund source such as a grant has been identified and secured, it is assumed that the City will be responsible for funding 100% of the cost of the project.

Unknown Costs

In many cases grant funding has not been awarded, but it is assumed the project will be funded in the future. Since the cost-share varies for various grant programs, "TBD" is included for both the City and non-City fund amounts. Correct numbers will be utilized when more information is available in a future CIP.

CIP PROJECT SPREADSHEET

The information in the following CIP tables is a summary of the CIP Project Spreadsheet included at the end of the CIP. The project spreadsheet includes similar information in a slightly different format that City staff and officials can more easily revise and manipulate.

All projects contained on the CIP spreadsheet are included in the tables below, with some multi-phase projects on the spreadsheet lumped together into one project (e.g., design engineering (PE), construction, and construction engineering (CE) for road projects are split into three phases on the spreadsheet but combined below).



3 CAPITAL IMPROVEMENT PLAN HOUSING & NEIGHBORHOODS

The City of Flint has approximately half the population it had at the adoption of the Last Master Plan in 1960. This population loss has had varied impact across Flint's neighborhoods, with some experiencing significant vacancies and degrading housing conditions, while other neighborhoods remain relatively stable.

The Housing and Neighborhoods Chapter in the Master Plan outlines a wide variety of strategies needed to address the drastic changes that have occurred in Flint's neighborhood structure. In more populated neighborhoods, the City must devote resources toward vacant lot maintenance, targeted demolition, building rehabilitation, and code enforcement to prevent these neighborhoods from de-stabilizing.

In other traditional single-family neighborhoods experiencing significant population loss, the City should focus on helping these areas evolve into well-maintained, less dense, "green neighborhoods." A few neighborhoods with extreme population loss are being repurposed to make way for non-residential development that can make productive use of largely vacant areas.

The CIP will play an important role in tying infrastructure improvements to the needs of each neighborhood place type identified in the Master Plan.

Project Summary

Total Number of Projects:

10

Total Cost of Projects Listed:

\$107,764,190

Project Examples:

- Demolition of 6,000 vacant and blighted structures city-wide (1 – Urgent)
Total Cost: \$75,950,000
- Provide effective code enforcement to support blight removal (1 – Urgent)
Total Cost: \$2,500,000
- Convert existing streetlights to LED fixtures to cut down on energy costs (3 – Desirable)
Total Cost: \$4,735,890

Long Term Projects

Numerous projects in the CIP will require on-going investment by the City to ensure infrastructure is properly maintained over time. These projects extend beyond the 6-year window identified in the CIP.

Though no long term projects are currently identified in this chapter, as the CIP is revised and added to in future years, long term projects should be listed here. This will help draw attention to on-going costs the City should be aware of moving forward.

CIP Overview

Housing maintenance or neighborhood stabilization projects are typically not included in a Capital Improvement Plan. Unfortunately, the burden of managing vacant properties falls on local government and cities like Flint are struggling to find the resources necessary to demolish or rehabilitate vacant buildings and take care of vacant property. Moving forward, it is important to note that the City continue to commit its Community Development Block Grant Funds and pursue additional grants to fund neighborhood stabilization efforts such as owner occupied rehabilitation and new housing construction. The City should also use grant funds to help stimulate multi-family supply in a fairly weak housing market.

Neighborhood Planning

Investments in improving the quality of housing, along with strategic investments in neighborhood infrastructure, should be guided by neighborhood-level planning efforts. The City has committed to completing 10 to 15 neighborhood plans to cover every residential area in the City by 2020. As described earlier, the neighborhood plan would also include an individualized infrastructure plan in an attempt to “right size” services to population needs. Ongoing data collection at the neighborhood level data will assist in making better decisions about infrastructure investments.

Partner Organizations

The City has several partners to collaborate with in its efforts to combat blight and stabilize Flint’s neighborhoods.

The Genesee County Land Bank owns approximately 20% of all vacant property or buildings in the City and is an essential partner in improving conditions in local housing and neighborhoods. The Land Bank has partnered with the City to pursue grants to demolish poor or substandard properties and the two entities continue to partner on several other projects.

The Flint Housing Commission (FHC), a Public Housing Agency (PHA) that owns 1,248 units of scattered sites and multi-family, low-income public housing in Flint, is also a key partner. In the Master Plan, the City has committed to better collaboration on issues such as demolition, blight elimination, public safety, and sale of rehabilitated homes to the FHC in better connected neighborhoods. Relocated housing could be in the form of multi-family housing, a shared market/subsidized structure, or scattered infill units. The City also hopes to partner with FHC to apply for a Choice Neighborhood Planning Grant to focus on creating vibrant mixed-income neighborhoods that include quality, affordable housing.

Housing & Neighborhoods Policy

The following housing and neighborhood policies are derived from the Master Plan and should shape all projects moving forward. These policies should provide a framework for evaluating the merits of any capital improvement project. For detailed discussion of each policy, please refer to the Master Plan section and the page referenced.

- **Housing options diversification.** The City's housing stock should contain more multi-family and single-family housing options to meet changing demographics and land use patterns.

Master Plan reference: Diversifying Housing Options, pp. 93-95.

- **Public & affordable housing.** New public and affordable housing units should be developed in diverse mixed-income neighborhoods, replacing more isolated locations.

Master Plan reference: Prioritizing Social Equity, p. 96.

- **Data-driven investment.**

Regularly inventorying structural quality, housing vacancy, and demographic trends should produce a data-driven foundation to make investment decisions at the neighborhood level, aligned with the Land Use Plan.

Master Plan reference: Developing An Investment Framework, pp. 97-100.

- **Demolition & neighborhood stabilization.** In addition to continuing existing demolition efforts, the City should invest \$10 million per year in neighborhood stabilization, with at least half allocated to Green Neighborhoods and their associated Neighborhood Centers.

Master Plan reference: Neighborhood Revitalization Priorities, p. 101; Eliminating Blight and Urban Decay, p. 110.

- **Code enforcement.**

Dedicated code enforcement officers and a clear legal process for reporting and prosecuting offending property owners should be utilized to reduce neighborhood blight.

Master Plan reference: Code Enforcement, p. 101.

- **Greening.**

All efforts should be made to empower residents and stakeholders to re-use vacant residential lots for a variety of purposes, including community gardens, larger lots, and limited scale urban agriculture.

Master Plan reference: Greening & Repurposing, pp. 102-103.

- **Home financing.** The City should take an active role in supporting home financing programs and affordable housing development.

Master Plan reference: Neighborhood Reinvestment Strategies, p. 104.

- **Historic preservation.**

Demolition by neglect should be halted through increased investment and code enforcement, recognizing the need to balance preservation with private property interests.

Master Plan reference: Historic Districts, p. 105.

HOUSING & NEIGHBORHOODS CAPITAL IMPROVEMENT PLAN

Blight Elimination

The Master Plan calls for the development of a multi-phase blight elimination framework that serves to stabilize neighborhoods through a collaborative approach between residents, local government, institutions, community groups, and business leaders and developers. In its important campaign to end blight in Flint, the City produced a Five-Year Blight Elimination Framework that uses the Master Plan place types to provide direction for blight removal, which can be used by institutions, residents, business owners, public officials, and the entire Flint community.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Boarding Boarding of 5,000 structures. 5-year cost.	I – URGENT	\$1,100,000	TBD	TBD
Code Enforcement Provide effective code enforcement to support blight removal and work to ensure that properties remain blight free. 5-year cost.	I – URGENT	\$2,500,000	TBD	TBD
Waste Removal Removal of 71,000 tons of trash, debris, and hazardous trees. 5-year cost.	I – URGENT	\$3,800,000	TBD	TBD
Mowing Mow 20,000 properties annually with next-door support and using mow strips for properties not adjacent to occupied properties, if not reused. 5-year cost.	I – URGENT	\$17,988,300	TBD	TBD
Demolition Demolish 6,000 vacant and blighted residential structures. 5-year cost.	I – URGENT Grant Funds Secured	\$75,950,000	TBD	TBD
Vacant Lot Reuse Facilitate reuse of 5,000 vacant lots. 5-year cost. Utilizing low-maintenance plantings and green/blue infrastructure techniques.	2 – IMPORTANT	\$1,400,000	TBD	TBD

**HOUSING & NEIGHBORHOODS
CAPITAL IMPROVEMENT PLAN**

Improving Neighborhoods

Investing in Flint's existing neighborhoods is a key component in improving quality of life, a guiding principle of the Master Plan. The City should continue to identify projects and initiatives that improve neighborhoods in accordance to the Master Plan.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>Residential Parcel Assessment</p> <p>Bi-annual inventory of residential parcels for structural quality and housing vacancy. Cost of undertaking one such inventory is \$20,000.</p>	2 – IMPORTANT	\$20,000	\$0	\$20,000
<p>Smith Village Landscaping and Green Infrastructure Plan</p> <p>The Renaissance of Smith Village Development is nearly complete. This plan will address remaining issues such as inconsistent grading and drainage, and make the neighborhood more attractive through better streetscape and landscape design. These issues give us the opportunity to make Smith Village a demonstration project for the implementation of green infrastructure, helping the City cut long term maintenance and utility costs while becoming more sustainable in the process.</p>	2 – IMPORTANT	\$75,000	\$75,000	\$0
<p>Smith Village Landscaping and Infrastructure Improvements</p> <p>Implementation and construction of the above plan. Will include: streetscape and gateway improvements, landscaping and grading, sidewalk and utility repairs, and green infrastructure elements such as rain gardens.</p>	2 – IMPORTANT	\$195,000	\$195,000	\$0
<p>LED Streetlight Program</p> <p>Converting existing high-pressure sodium and mercury-vapor streetlights to LED fixtures would require an initial capital outlay but the savings in energy costs was anticipated to have a payback of as soon as 3 years (based on EPICS-Purdue University study).</p>	3 – DESIRABLE	\$4,735,890	\$4,735,890	\$0



The City must approach transportation and mobility with a strategy that is driven by the Master Plan. The City is primed to leverage its strategic regional location, access to the interstate highway system, and connection to Bishop International Airport for new economic development efforts. The City is also faced with the challenge of restructuring its transportation and mobility systems that were designed and built for a population twice that of which they currently serve.

The Transportation & Mobility Plan of the Master Plan stresses the need to work with agencies, such as the Genesee County Road Commission and Michigan Department of Transportation (MDOT), to better coordinate efforts, manage and maintain their roadways, and improve the transportation system in Flint. Furthermore the City must undertake and support initiatives that reduce dependence on the automobile and improve walkability and bikeability by partnering with Flint Mass Transportation Authority.

Land use and transportation are inherently linked. Together, they create the places people go and the ways they get there. Land use and transportation must be closely coordinated to ensure that Flint grows in a sustainable and efficient way.

All policies and projects should consider the impacts on both the City’s land use pattern and transportation network based on the following questions:

- Does the existing transportation system support anticipated development?
- How can future development complement the transportation network?
- What modes of transportation are most appropriate for a given area?
- How can investment in transportation accomplish other community goals, including neighborhood stabilization; infrastructure improvement; economic development; delivery of 21st Century education across a resident’s life span; advancement of environmental features, parks, and community open spaces; and the promotion of public safety, health, and welfare?
- How does the local environment influence transportation improvements?

Project Summary

Total Number of Projects:
44

Total Cost of Projects Listed:
\$58,463,074

Project Examples:

- Rehabilitation and reconstruction of N. Saginaw St. from Hamilton to Pierson (1 – Urgent)
Total Cost: \$2,060,000
- Annual resurfacing of 5 miles of residential streets (1 – Urgent)
Total Cost: \$50,000,000
- Construction of the Genesee Valley Trail and Grand Traverse Greenway (2 – Important)
Total Cost: \$1,107,80

Additional Information

For additional information regarding this chapter as it pertains to the City of Flint and specific capital improvements, see the “Additional Information” section following the action item tables.

Long Term Projects

Several projects within the CIP will require on-going investment by the City to ensure infrastructure is properly maintained over time and there are a number of necessary projects that are not included. Streets and sidewalks require regular maintenance and are generally considered to have an approximately 20 year life, after which deterioration is accelerated. Similarly, bridges require regular maintenance, with the life considered to be closer to 50 years, though bridges will typically require several significant restoration projects over this time period.

Several items in this chapter have a cost that will extend beyond the 6-year window identified in the tables. While costs for these projects have been calculated for the 6-year horizon of this CIP, their true cost will accrue over the next 20 years or more. Calculating total cost for each of these projects is difficult due to factors such as inflation and the cost of labor and materials that will fluctuate over the life of the project.

The long term and on-going projects identified in this chapter are summarized in the table below which identifies current annual costs for each, where available.

Projects with significant capital costs for a 20-year or longer lifespan are not necessarily included below given uncertainties on when a capital project will be needed.

Maintenance & Upgrades

The true lifespan of improvements is highly variable and is reduced when maintenance is not performed. Other capital projects that are anticipated, but not included, are technology or regulatory upgrades that are likely in the future or capital projects that arise out of one of the many studies that are recommended. Examples of these types of projects could include things such as upgraded traffic signals for improved technology, upgraded pedestrian signals to address ADA requirements, improvements recommended by the transportation network analysis, etc.

CIP Vision for Transportation & Mobility

Imagine an efficient, coordinated, and reliable transportation system within Flint, where an interactive network of trails, sidewalks, bike lanes, buses, and roads afford all citizens multiple modes of safe transit. Imagine a Flint that is one of the most walkable and bikeable communities in all of Michigan. Imagine a Flint that capitalizes on its strategic regional location, access to the interstate highway system, existing railroad infrastructure, and connection to Bishop International Airport to spark new industries and grow companies.

Long Term Projects		
PROJECT	CURRENT ANNUAL TOTAL COST	ESTIMATED TOTAL COST
Residential Streets	\$1,000,000	\$50,000,000+
Sidewalk Repairs	\$466,667	\$40,000,000+
Future TIP Projects	\$1,500,000	TBD
Future Federal-Aid Projects	\$1,000,000	TBD
Traffic and Signal Technology Projects	\$0	TBD

CIP Overview

The City of Flint has the opportunity to redesign its image and develop a more efficient mode of transit throughout the City. An aging street network that is severely in excess given the current population counts should be addressed through prioritized projects that align accordingly with the future functional classification map, identifying current and future traffic counts. These roadways offer support to the areas of envisioned higher density and regional opportunities found in the land use plan.

Focusing on major roadway improvements that offer increased bicycle and pedestrian mobility options will aid the City with shifting the perception of Flint as an auto-oriented town. These projects will also provide vibrant spaces for increased recreation and reduced long-term maintenance for the City to manage.

A strong prioritization on road diet projects and streetscape improvements present lower cost options that offer higher reward returns. Furthermore, the transportation and mobility CIP has the opportunity to connect with the larger regional transit network, of which air, rail, and public transit have tremendous long-term opportunities. Linking increased passenger rail options with a growing state network of public transit options provides opportunities for Flint to significantly tap into its strategic location.

Transportation & Mobility Policy

The following transportation and mobility policies are derived from the Master Plan and should shape all projects moving forward. These policies should provide a framework for evaluating the merits of any given capital improvement project. For detailed discussion of each policy, please refer to the Master Plan section and page referenced.

- **Access Management.**

Redundant curb cuts should be prioritized for elimination and shared access opportunities should be identified as part of all roadway construction projects.

Master Plan reference: Mobility & Access, pp. 120-122

- **Block consolidation.**

Local street connectivity should be evaluated to identify redundant linkages and small roadway segments that could be removed.

Master Plan reference: Mobility & Access, pp. 122-123

- **Infrastructure Design.**

Cross-sections and connectivity should be assessed for road diet candidacy and to identify the potential to accommodate multiple modes of transportation per the City's Complete Streets ordinance.

Master Plan reference: Infrastructure Design, p. 123-126

- **Problematic Intersections.**

Crash statistics and other traffic data should be evaluated to prioritize problematic intersections for vehicular and pedestrian safety improvements and Intelligent Transportation Systems Improvements (ITS). The City should also partner with local colleges and universities to map and analyze crash data for identification of crash hotspots.

Master Plan reference: Mobility & Access, p. 123; Infrastructure Design, p. 126; Technologies & Wayfinding, p. 127

- **Trail Improvements.**

Opportunities for improved wayfinding, trailhead improvements, and installation of local and regional trail segments should be identified in concert with improvements to roadways and rights-of-way.

Master Plan reference: Trail Improvements, p. 128

- **Bicycle Infrastructure.**

Streets suitable for on-street lanes should be identified to help complete the City-wide network or provide needed connections between established routes and local community assets.

Master Plan reference: Trail Improvements, p. 128; Bike Storage & Facilities, p. 129

- **ADA Compliance.**

All improvements to roadways and rights-of-way should be in compliance with the American with Disabilities Act Accessibility Guidelines.

Master Plan reference: Signage & Safety, p. 130

- **Pedestrian Safety.**

Identify high pedestrian traffic areas and assess need for improvement to pedestrian safety through lighting, crosswalk improvements, traffic calming, etc.

Master Plan reference: Signage & Safety, pp. 130-132

- **Sidewalk Repair.**

The City should seek partnerships with property owners and other entities to share the cost of sidewalk improvements. The City should also continue to secure federal, state, and grant funding for the repair or installation of sidewalks.

Master Plan reference: Signage & Safety, p. 131

- **Mass Transit Authority.**

The MTA should be consulted to determine needs related to local infrastructure (bus turnouts, stop locations, intersection phasing, ITS applications, etc.) and identify desirable modifications to established routes.

Master Plan reference: Transit, pp. 133-136

TRANSPORTATION & MOBILITY CAPITAL IMPROVEMENT PLAN

Maintenance of Existing Streets

The street network within the City includes more than 510 miles of roadways. The current network of local streets has long been neglected, with estimates of repairs needed at \$50 million, and this estimate may be well below actual costs when considering the full scope of projects. Investment in streets is vital to accomplishing the goals of the Master Plan and should be considered an investment in other aspects of the community. Opportunities to make improvements, such as instituting Complete Streets, can all contribute to “right-sizing” the roadway network to meet the needs of the new Flint and be a critical infrastructure improvement for implementation of all aspects of the Master Plan.

NOTE: It is anticipated that moving forward the City will spend an average of \$75,000 each year for general engineering services. In addition, it is anticipated that the annual cost for bridge inspections and engineering services by consultants will be \$44,000. These annual costs are not included as line items within the following CIP project table.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>Andrew Street</p> <p>Full reconstruct of Andrew Street from Stewart to Wager. Andrew will remain a 3 lane, one-way road with the potential to be converted to two-way in the future. Project will include curb and gutter replacement along with a new HMA roadway with aggregate base and storm sewer repairs. All sidewalk ramps in the project area will be reconstructed to meet current ADA standards. Cost includes PE, construction, and CE.</p>	1 – URGENT Grant Funds Secured	\$874,971	\$0	\$874,971
<p>Stewart Avenue</p> <p>Full reconstruct of Stewart Ave from James P. Cole to Dort. Stewart will be reduced from a six lane roadway to 5 lanes. Project will include curb and gutter replacement along with a new HMA roadway with aggregate base and storm sewer repairs. All sidewalk ramps in the project area will be reconstructed to meet current ADA standards. Cost includes PE, construction, and CE.</p>	1 – URGENT Grant Funds Secured	\$1,436,097	\$0	\$1,436,097
<p>Residential Streets</p> <p>Includes asphalt milling and resurfacing of approximately 5 miles of residential streets annually at a cost of \$1,000,000. Prioritization to be determined to assist in implementation of Master Plan to meet estimated \$50,000,000 need.</p>	1 – URGENT	\$6,000,000	\$6,000,000	\$0
<p>Miscellaneous Projects</p> <p>Projects not identified for FY 2016.</p>	2 – IMPORTANT	\$45,000	\$45,000	\$0
<p>Fenton Road</p> <p>Milling and resurfacing of existing pavement, pavement repairs, man-hole adjustments, and reconstruction of curb ramps from Hemp-hill to Campbell Street. Cost includes PE, construction, and CE.</p>	2 – IMPORTANT Grant Funds Secured	\$788,591	\$157,718	\$630,873
<p>Lapeer Road – I-69 to Dort Hwy.</p> <p>Milling and resurfacing of existing pavement, pavement repairs, man-hole adjustments, and reconstruction of curb ramps from I-69 to Dort Highway. Cost includes PE, construction, and CE.</p>	2 – IMPORTANT	\$1,382,973	\$276,595	\$1,106,378
<p>Future TIP Projects</p> <p>Not identified projects 1.5 to 2 million dollars for each FY 18-20 at assumed 20% cost-share.</p>	2 – IMPORTANT	\$1,500,000	\$300,000	\$1,200,000
<p>Lapeer Road – Dort Hwy. to Center Rd.</p> <p>Milling and resurfacing of existing pavement, pavement repairs, man-hole adjustments, and reconstruction of curb ramps from Center Road to Dort Highway. Cost includes PE, construction, and CE.</p>	2 – IMPORTANT	\$1,527,597	\$305,516	\$1,222,081
<p>Stewart Avenue</p> <p>Milling and resurfacing of existing pavement, pavement repairs, man-hole adjustments, and reconstruction of curb ramps from Andrew Street to Dupont Street. Cost includes PE, construction, and CE.</p>	2 – IMPORTANT	\$1,633,690	\$326,738	\$1,306,952

TRANSPORTATION & MOBILITY CAPITAL IMPROVEMENT PLAN

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Dupont Street Milling and resurfacing of existing pavement, pavement repairs, man-hole adjustments, and reconstruction of curb ramps from Stewart Avenue to Carpenter Road. Cost includes PE, construction, and CE.	2 – IMPORTANT Grant Funds Secured	\$1,970,574	\$656,860	\$1,313,714
Fenton Road Milling and resurfacing of existing pavement, pavement repairs, man-hole adjustments, and reconstruction of curb ramps from I-69 to Campbell Street. Cost includes PE, construction, and CE.	2 – IMPORTANT Grant Funds Secured	\$1,984,569	\$661,910	\$1,322,700
Mackin Road Total reconstruction with storm sewer upgrades, new sidewalk, drive approaches, ADA ramps, and signals from Ballenger Highway to Grand Traverse. Cost includes PE, construction, and CE.	2 – IMPORTANT	\$2,500,000	\$485,000	\$2,015,000
MDOT Projects Annual projects anticipated for FY 2015, 2016, and 2017 that require a cost-share by the City to participate.	2 – IMPORTANT Grant Funds Secured	\$2,780,000	\$556,000	\$2,224,000
Martin Luther King Avenue Total reconstruction with storm sewer upgrades, new sidewalk, drive approaches, ADA ramps, and signals from Pierson to Downtown. Cost includes PE, construction, and CE.	2 – IMPORTANT	\$3,750,000	\$750,000	\$3,000,000
Hamilton Avenue Total reconstruction with storm sewer upgrades, new sidewalk, drive approaches, ADA ramps, and signals from Forest Hill to Broadway. Cost includes PE, construction, and CE.	2 – IMPORTANT	\$3,750,000	\$750,000	\$3,000,000
Atherton Road Total reconstruction with storm sewer upgrades, new sidewalk, drive approaches, ADA ramps, and signals from Saginaw to Dort Highway. Cost includes PE, construction, and CE.	2 – IMPORTANT	\$3,750,000	\$750,000	\$3,000,000
Grand Traverse Street Total reconstruction with storm sewer upgrades, new sidewalk, drive approaches, ADA ramps, and signals from Welch to Hemphill. Cost includes PE, construction, and CE.	2 – IMPORTANT	\$6,250,000	\$1,250,000	\$5,000,000
Flint Cemetery driveway Construct a new driveway to improve accessibility to the cemetery, particularly for veterans.	3 – DESIRABLE	\$100,000	\$100,000	\$0
Saginaw Street Brick Resurfacing Resurface existing brick-surfaced segment of Saginaw Street from the Flint River to Court Street with brick.	3 – DESIRABLE	TBD	TBD	TBD

TRANSPORTATION & MOBILITY CAPITAL IMPROVEMENT PLAN

Technology & Wayfinding

There are many low cost improvements that can have a dramatic positive impact on mobility. The City has 288 signalized intersections, well over twice the number anticipated for the population. Conversion of signalized intersections to two- or four-way stop control can save several thousand dollars annually in electricity costs, not to mention the cost of hardware and controllers. Another, often overlooked, method of improving mobility is through improved wayfinding signage. Addition of distinctive, uniform, and attractive signage along key corridors, intersections, and locations can be instrumental in directing visitors to key destinations. The City should collaborate with entities such as MDOT to review traffic signals on state routes and Downtown business groups for ideas on wayfinding programs in the Downtown.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>Pierson Road CMAQ Project</p> <p>LED and wireless traffic signal upgrades at 6 of 12 intersections from Harvard to Dort Highway. Traffic signal improvements at the following locations: Pierson Road at Harvard Street, Saginaw Street, Selby Street, and Horton Ave. Improvements include full signal replacement and ADA ramp upgrades at each intersection. Traffic signal removal at the following locations: Pierson Road at North Street and Pierson Road at Industrial Ave. This is the second phase of a project completed in 2012 to perform traffic signal improvements at six other locations along Pierson Road and completes the Pierson Road corridor. Project is funded by a Federal Congestion Management/Air Quality (CMAQ) grant and includes both construction and CE.</p>	1 – URGENT Grant Funds Secured	\$474,100	\$13,300	\$460,800
<p>Analysis of City Traffic Signals</p> <p>Review of all City traffic signals to determine if they are warranted and, if so determine if synchronization, cycle length changes, etc. can improve mobility and reduce delays.</p>	2 – IMPORTANT	TBD	TBD	TBD

Infrastructure Design

Street network improvements that are not typical resurfacing or reconstruction can also greatly affect mobility. Implementation of “Complete Streets” designed and operated to be safe for pedestrians, bicyclists, motorists, and transit riders of all ages and abilities can often not only ease congestion but also support economic growth, improve safety, encourage walking and biking, improve air quality, and enhance mobility for children. The Master Plan has already identified a number of corridors in the City that could be candidates for a road diet. A handful of projects have been identified below as a first step in the Complete Streets program for the City during implementation of the Master Plan.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>South Saginaw Street Road Diet</p> <p>Planning staff received a \$30,000 grant to complete the road diet for S. Saginaw St. from I-69 to Hemphill Rd. These resources will result in new bike lanes being created on Saginaw St., a streetscape plan with gateway enhancements being generated, and minor streetscape improvements being implemented. Enhancement and road diet from Downtown to Hemphill. Cost includes construction.</p>	1 – URGENT Grant Funds Secured	\$280,000	\$250,000	\$30,000
<p>Saginaw Street</p> <p>Construction and CE for 1.77 miles of road rehabilitation, including cold-milling of existing asphalt roadway, placement of HMA surfacing, select curb repair, minor base repair including detail 7 & 8 joint repair, manhole cover adjustments, ADA compliant ramp improvements, select storm sewer improvements, traffic signal improvements, pavement markings, and restoration from Hamilton to Pierson.</p>	1 – URGENT Grant Funds Secured	\$2,060,000	\$412,000	\$1,648,000
<p>Saginaw Street</p> <p>Milling and resurfacing of existing pavement, pavement repairs, manhole adjustments, and reconstruction of curb ramps from Hamilton Avenue to the Flint River. Cost includes PE, construction, and CE.</p>	2 – IMPORTANT	\$1,940,822	\$388,164	\$1,552,658
<p>Buick City Redevelopment Perimeter Streets</p> <p>Total reconstruction with storm sewer upgrades, new sidewalks, drive approaches, ADA ramps and signals to facilitate redevelopment in the area. Cost includes PE, construction, and CE.</p>	2 – IMPORTANT	\$3,750,000	\$750,000	\$3,000,000

TRANSPORTATION & MOBILITY CAPITAL IMPROVEMENT PLAN

Mobility & Access

Given that the City's transportation network hosted much higher traffic volumes than are expected in the future, the existing network is likely a candidate for other projects to improve mobility and access. The City should consider a comprehensive analysis of the street network to ascertain what improvements best meet needs, both current and future. The scope of this analysis should build upon that already completed in the Master Plan but go to a higher level of detail, looking at additional factors and developing a more comprehensive listing of projects that can be discussed at a future update of this CIP.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
City-Wide Transportation Network Analysis Study suggested to perform a thorough analysis of the true needs of the City's roadway network.	1 – URGENT	TBD	TBD	TBD
Leith Street Bridge Preventative maintenance of the bridge over the C&O railroad includes substructure repairs of the piers under the fascia beams. Costs include construction and CE.	3 – DESIRABLE Grant Funds Secured	\$65,703	\$11,347	\$54,356
Bus Rapid Transit The City, in partnership with the Mass Transit Authority (MTA), should pursue a feasibility study on BRT transit along Saginaw Street. Identified as the "primary artery" within Flint, BRT along Saginaw Street would provide increased accessibility and access through much of the City's core.	3 – DESIRABLE	TBD	TBD	TBD

Bridges

As would be expected, bridges in the City are in a similar situation when compared to the streets. There are a number of vehicle and pedestrian bridges that are in need of regular maintenance, rehabilitation, or replacement. At least 53 bridges in the City are rated as "structurally deficient" or "functionally obsolete" according to a Highway Bridge Report prepared by MDOT in 2013. The City has a total of 32 bridges under its jurisdiction, 23 of which (72%) were found to be "structurally deficient" or "functionally obsolete" according to a Bridge Technical Report prepared by Genesee County Metropolitan Planning Commission.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Atherton Road Bridge Preventative maintenance of the bridge over Thread Creek. Cost includes PE, construction, and CE.	2 – IMPORTANT Grant Funds Secured	\$42,000	\$42,000	\$0
Kearsley Park Boulevard Bridge Preventative maintenance of the bridge over Gilkey Creek. Cost includes PE, construction, and CE.	2 – IMPORTANT Grant Funds Secured	\$135,000	\$32,400	\$102,600
Barton Street Bridge Preventative maintenance of the bridge over Thread Creek. Cost includes PE, construction, and CE.	2 – IMPORTANT	\$183,750	\$44,100	\$139,650
Stewart Street Bridge Preventative maintenance of the bridge over the C & O Railroad includes pin and hanger replacement, deck joint replacement, and cleaning and coating the beam ends. Costs include construction and CE.	2 – IMPORTANT Grant Funds Secured	\$671,834	\$114,437	\$557,397
12th Street Pedestrian Bridge Demolish pedestrian bridge over 12 th Street and railroad at Southwestern Academy. Verify that bridge no longer is needed to meet future plans of Flint Community Schools and Master Plan implementation.	3 – DESIRABLE	\$150,000	\$150,000	\$0

TRANSPORTATION & MOBILITY CAPITAL IMPROVEMENT PLAN

Pedestrian Network

The City has a comprehensive sidewalk network that serves its neighborhoods, commercial areas, and recreational areas. Crosswalks and curb ramps are critical components of the pedestrian network but many are missing, in poor condition, or do not meet Americans with Disabilities Act (ADA) standards. A walkability audit should be performed that identifies pedestrian paths and physical barriers to walking, access to transit, and accessibility for persons with disabilities. Special attention must be given to areas with known populations of disabled users and near schools to provide connections through neighborhoods.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Sidewalk Repairs Repairs to sidewalks city-wide with estimated cost of \$40,000,000 minimum. By ordinance, sidewalk repairs are the responsibility of the property owner and a cost-sharing program is being evaluated to facilitate city-wide improvements. An accurate, detailed inventory is needed to assess most critical areas based on Master Plan implementation goals. Other funding sources will be considered also, including Safe Routes to Schools, etc.	2 - IMPORTANT	TBD	TBD	TBD
Walkability Audit of City Pedestrian Network Review of entire network of City sidewalks to determine condition and ADA compliance to allow prioritization of projects. Should include extensive public involvement and be consistent with the implementation of the Master Plan.	2 - IMPORTANT	TBD	TBD	TBD

Trail Improvements

Trails and pathways are an important component of creating a livable community and attracting a talented workforce to the City of Flint and Genesee County. The Genesee County Regional Trail Plan included a number of trail projects that should be considered both within the City as well as regional trail connections. The Genesee County Plan identified the Flint River Trail, Genesee Valley Trail, and Grand Traverse Greenway as the top 3 priority trail projects in the county. The Federal and state government, non-profit organizations, and corporations all offer programs for trail funding. Maintaining eligibility for the various funding sources and seeking funding for improvements is critical to meeting the goals for trails in the City.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Genesee Valley Trail Construct 10-foot wide non-motorized pathway from Chevrolet Ave. to M-21.	1 – URGENT Grant Funds Secured	\$655,803	\$131,070	\$524,733
Western Flint River Trail Extension-Carriage Town (1.3 miles) Estimated from Genesee County Regional Trail Plan (2007)	3 – DESIRABLE	\$390,000	\$390,000	\$0
Southern Flint River Trail Extension-Flint Golf Club (2.0 miles) Estimated from Genesee County Regional Trail Plan (2007)	3 – DESIRABLE	\$600,000	\$600,000	\$0
Western Flint River Trail Extension-Mott Park (2.2 miles) Estimated from Genesee County Regional Trail Plan (2007)	3 – DESIRABLE	\$660,000	\$660,000	\$0
Southern Flint River Trail Extension-Swartz Creek (2.8 miles) Estimated from Genesee County Regional Trail Plan (2007)	3 – DESIRABLE	\$840,000	\$840,000	\$0
Southern Flint River Trail Extension-CSX railroad (3.1 miles) Estimated from Genesee County Regional Trail Plan (2007)	3 – DESIRABLE	\$930,000	\$930,000	\$0
Northeast Flint River Trail Extension (3.8 miles) Estimated from Genesee County Regional Trail Plan (2007)	3 – DESIRABLE	\$1,140,000	\$1,140,000	\$0
Eastern Flint River Trail Extension (4.9 miles)	3 – DESIRABLE	\$1,470,000	\$1,470,000	\$0

Additional Information

Maintenance of Existing Streets

The street network within the City includes more than 510 miles of roadways. The current network of local streets has long been neglected, with estimates of repairs needed at \$50 million, and this estimate may be well below actual costs when considering the full scope of projects. Even with the undeniable need, the FY 2012-13 maintenance program accounted for only 4.5 miles of resurfacing. At that pace, City roadway resurfacing would be completed on a 122-year cycle even though the life expectancy of an asphalt roadway is 20 years at best. Pavement Surface Evaluation and Rating System (PASER) ratings in 2012 found only 8% of Flint's Federal-aid eligible City streets to be in "Good" condition, down from 28% in 2008. It is likely that local streets are suffering from the same deterioration.

Investment in streets is vital to accomplishing the goals of the Master Plan and should be considered an investment in other aspects of the community. The goods and people transported by the street network supports commerce, industry, health, education, activity, and other important functions. Land use changes in the City and their relationship to the changing transportation needs should be analyzed in great detail as part of any redevelopment project. The Master Plan discussed a number of concepts and techniques to consider in various parts of the City to reflect the change in context, multi-modes of transportation available, and current practices in the industry.

Opportunities to make improvements, such as instituting Complete Streets, converting one-way streets to two-way in the area, consolidating curb cuts, reconnecting cul-de-sac streets, road diets, reconfiguring intersection alignments, removing traffic signals that are no longer needed, signal technology improvements, and access management (all of which are discussed in detail in the Master Plan Chapter 6), can all contribute to "right-sizing" the roadway network to meet the needs of the new Flint and be a critical infrastructure improvement for implementation of all aspects of the Master Plan. Eliminating some roadway segments can be done without compromising local mobility or character of neighborhoods, and these segments then do not compete with critical segments for maintenance dollars. There are numerous four-lane roadways throughout the City that have Average Daily Traffic (ADT) totals below 20,000, making them candidates for a road diet via conversion to three-lanes or narrow median four-lane boulevards, along with other improvements specific to the modal requirements of the corridor. A number of the projects listed include review of feasibility of a road diet implementation (see page 125 of the Master Plan for a complete list and map).

Technology & Wayfinding

Projects on the transportation network to improve mobility are not restricted to paving or reconstruction. There are many low cost improvements that may be considered that can have a dramatic positive impact on mobility. Given the reduction in population, it is very likely that some intersections that are currently signalized would no longer warrant them. The City has 288 signalized intersections, well over twice the number anticipated for the population according to the Institute for Transportation Engineers (ITE). Conversion of signalized intersections to two- or four-way stop control can save several thousand dollars annually in electricity costs, not to mention the cost of hardware and controllers. For intersections where signals are warranted, improvements can still be made, including coordinating a series of signals on major arterial roadways to allow vehicle platoons driving the posted speed limit to progress through a corridor. Where synchronization isn't an option, alternatives such as changing the cycle length as warranted by traffic throughout the day or addition of vehicle detection systems to modify signal phasing based on traffic volumes in real time can be considered to minimize queuing of vehicles and wasted green time. These changes, in addition to emergency signal preemption and transit signal priority can assist in improving mobility for emergency vehicles and buses.

Another, often overlooked, method of improving mobility is through improved wayfinding signage. Addition of distinctive, uniform, and attractive signage along key corridors, intersections, and locations can be instrumental in directing visitors to key destinations, such as the Downtown, public parking, parks, hospitals, schools, colleges, motels, restaurants, etc. Within key areas such as the Downtown, additional pedestrian-level maps can further highlight attractions in each area. As the Master Plan is implemented it is very likely that a number of projects in addition to those listed will be identified to improve mobility. The City should collaborate with entities such as MDOT to review traffic signals on state routes and Downtown business groups for ideas on wayfinding programs in the Downtown. It is also feasible that student projects at one of the local colleges could be done for wayfinding recommendations and options throughout the City.

Infrastructure Design

Street network improvements that are not typical resurfacing or reconstruction can also greatly affect mobility. Implementation of “Complete Streets” designed and operated to be safe for pedestrians, bicyclists, motorists, and transit riders of all ages and abilities can often not only ease congestion but also support economic growth, improve safety, encourage walking and biking, improve air quality, and enhance mobility for children. A Complete Streets approach to roadway infrastructure promotes the development of a multi-modal transportation network where safe alternatives to cars are available. The City has adopted a non-binding Complete Streets ordinance stating its support for development of multi-modal corridors, and a logical next step is adopting a binding policy outlining how various components can be integrated into future public and private development projects. The components could include design guidelines, technological improvements, signage, education programs and outreach, road diets, one-way to two-way conversions, addition of bike lanes, access management, mid-block pedestrian crossings/pedestrian signals, traffic calming, and intersection realignment, among others.

The Master Plan has already identified a number of corridors in the City that could be candidates for a road diet (conversion from four full width travel lanes, often with a full length center left turn lane to generally two travel lanes with on-street parking, transit lanes, bike lanes, and/or medians added). A handful of projects have been identified below as a first step in the Complete Streets program for the City during implementation of the Master Plan.

Mobility & Access

Given the fact that the City’s transportation network hosted much higher traffic volumes than are expected in the future, the existing network is likely a candidate for other improvements not already mentioned that would improve mobility and access. The City should consider a comprehensive analysis of the street network within the City to ascertain what improvements best meet needs, both current and future. The scope of this analysis should build upon that already completed in the Master Plan but go to a higher level of detail, looking at additional data such as traffic counts, crash data, land use, etc. and develop a more comprehensive listing of projects that can be discussed at a future update of this CIP. This study should also consider the need for connectivity to Bishop International Airport and the state highways and interstate highways in the City (M-21, M-54, I-69, I-75, and I-475), transit needs of MTA, and regional mobility. Other factors to consider are reconnecting cul-de-sacs where mobility would be enhanced, making new network connections to eliminate isolation from a neighborhood, and street removals that no longer serve their original purpose.

Bridges

As would be expected, bridges in the City are in a similar situation when compared to the streets. There are a number of vehicle and pedestrian bridges that are in need of regular maintenance, rehabilitation, or replacement. At least 53 bridges in the City are rated as “structurally deficient” or “functionally obsolete” according to a Highway Bridge Report prepared by MDOT in 2013.

The City has a total of 32 bridges under its jurisdiction, 23 of which (72%) were found to be “structurally deficient” or “functionally obsolete” according to a Bridge Technical Report prepared by Genesee County Metropolitan Planning Commission. All of these bridges facilitate the movement of vehicles over freeways, other roadways, railroads, and watercourses and are essential to the movement of goods and people in the City. It is unlikely that any of the vehicle bridges are no longer required; however, there are some pedestrian-only overpasses that no longer serve their original purpose due to the changes in population, closing of schools, and other factors.

The City is required to perform inspections of bridges to ensure that they meet current standards or if weight restrictions or other restrictions are appropriate based on condition. The inspection results can also be used to apply for funding through MDOT’s Local Agency Bridge Program. A number of projects have been considered and included in the CIP, with narratives for projects below.

Pedestrian Network

The City has a comprehensive sidewalk network that serves its neighborhoods, commercial areas, and recreational areas. Crosswalks and curb ramps are critical components of the pedestrian network but many are missing, in poor condition, or do not meet Americans with Disabilities Act (ADA) standards. The condition of many sidewalks is deteriorating and areas exist where gaps limit pedestrian safety and mobility.

There is no detailed inventory of sidewalks but there is extensive evidence significant work being needed to maintain, repair, or replace sidewalks. Sidewalk maintenance is an on-going challenge given Flint’s limited resources, a problem common in most urban areas. The City utilizes CDBG funds for some projects, having recently completed improvements in the University Park neighborhood. By local ordinance, property owners adjacent to the sidewalk are responsible for maintenance; however, in many cases structures or lots are publicly-owned, putting the burden back on the City. The City should work towards developing a cost-sharing program with homeowners on sidewalk repair to increase mobility throughout the pedestrian network.

A walkability audit should be performed that identifies pedestrian paths and physical barriers to walking, access to transit, and accessibility for persons with disabilities. Special attention must be given to areas with known populations of disabled users and near schools to provide connections through neighborhoods.

Trail Improvements

Trails provide many benefits to the community including an improved transportation system, health and safety, environmental preservation, and economic vitality for the community. Trails and pathways are an important component of creating a livable community and attracting a talented workforce to the City of Flint and Genesee County.

The Genesee County Regional Trail Plan included a number of trail projects that should be considered both within the City as well as regional trail connections. The Genesee County Plan identified the Flint River Trail, Genesee Valley Trail, and Grand Traverse Greenway as the top 3 priority trail projects in the county.

The purpose of the Genesee Regional Trail Council is to create an interconnected system of trails linking people and communities throughout Genesee County and guide the development of the countywide trail plan. There are a number of agencies and organizations that offer funding for the development of non-motorized trail systems. The Federal and state government, non-profit organizations, and corporations all offer programs for trail funding, and several funding sources can only be used for non-motorized trail systems. Maintaining eligibility for the various funding sources and seeking funding for improvements is critical to meeting the goals for trails in the City.



5 CAPITAL IMPROVEMENT PLAN ENVIRONMENTAL FEATURES, OPEN SPACE, & PARKS

Built around the Flint River, the City has always had a direct relationship with the natural environment. The Master Plan presents an opportunity for the City to generate greater social and capital benefits from its environmental features, open spaces, and parks.

Open space and parks are critical components of urban life. They provide opportunities for passive and active recreation, access to nature, enhanced air and water quality, and help define the character of each neighborhood and community as a whole. They also present possibilities for improving the efficiency of the City's infrastructure and capital systems.

Accordingly, the Master Plan establishes the framework for more extensive blue/green corridors throughout the City, that are complemented by linked trails, paths, parks, and other open space amenities. Investment in environmental features, open spaces, and parks capital is needed to generate greater benefits from these assets.

The Environmental Features, Open Space, & Parks Plan in the Master Plan aims to balance some of Flint's most significant challenges with unique opportunities to enhance the quality of life for its residents, and create a natural framework around which to build a new, prosperous Flint. It also identifies ways that water bodies, green open spaces, and parks can dovetail into other planning efforts, including land use, transportation, community facilities, public safety, and more.

Project Summary

Total Number of Projects:

23

Total Cost of Projects Listed:

\$62,964,735

Project Examples:

- Greening and phytoremediation of Chevy Commons (1 – Urgent)
Total Cost: \$2,000,000
- Riverbank Park Improvements (1 – Urgent)
Total Cost: \$500,000

Long Term Projects

Several projects within the CIP will require on-going investment by the City to ensure infrastructure is properly maintained over time and there are a number of necessary projects that are not included. Parks require not only annual maintenance such as mowing, but also regular implementation of capital projects to ensure they are safe and usable, as well as to address regulatory issues such as access for persons with disabilities.

Several items in this chapter have a cost that will extend beyond the 6-year window identified in the tables. While costs for these projects have been calculated for the 6-year horizon of this CIP, their true cost will accrue over the next 20 years or more. Calculating total cost for each of these projects is difficult due to factors such as inflation and the cost of labor and materials that will fluctuate over the life of the project.

The long term and on-going projects identified in this chapter are summarized in the table below which identifies current annual costs for each, where available.

Projects with significant capital costs for a 20-year or longer lifespan are not necessarily included below given uncertainties on when a capital project will be needed.

Brownfields

The City has a significant number of brownfields, with only a small number of them having any redevelopment plans proposed. In addition to brownfield redevelopment, the City also has studied the options for restoration of the Flint River and riverfront and a number of ambitious projects have been considered, many of which have plans for implementation.

Park Maintenance & Park Naturalization

Some park features, such as play equipment and parking lots, have a limited lifespan of 15-20 years. The life of other features, such as fences, benches, etc., can be much longer if properly maintained. The City's parks typically have outdated play equipment that does not meet current safety or accessibility standards. The lack of regular maintenance, other than mowing, has led to the condition of many other park features and amenities falling into disrepair. Many CIP projects listed have a goal to naturalize several parks to reduce maintenance requirements but this does not eliminate the need for other improvements.

Long Term Projects

PROJECT	CURRENT ANNUAL TOTAL COST	ESTIMATED TOTAL COST
Forestry Management	\$10,000	TBD
Park Maintenance Partnerships	\$40,000	TBD
Flint River Restoration Plan – Future Projects	\$5,000,000-7,000,000	\$40,000,000+
City-Wide Park Upgrades	Varies by park	TBD

CIP Vision for Environmental Features, Open Spaces, & Parks

Imagine a new national reputation for Flint, with the City positioned as a post-industrial leader in protecting the environment and building upon its natural assets to clean polluted air, land, and water, and confront climate change. Imagine an extensive network of well-kept parks, safe and accessible to all and beautifully maintained. Imagine the Flint River revitalized by an alliance of City, non-profit, volunteer, and resident partners. Imagine the Flint River as an anchor for economic growth and recreation and home to a vibrant “green waterfront” of parks and trails spanning the entire length of the river.

CIP Overview

The City has a great opportunity to reinvent its vast parks and open space system through calculated improvements and upgrades, while focusing on alternative and innovative methods of principal improvements within other lower priority spaces to address the overwhelming maintenance concerns. Primary capital investments within Flint park system should be made in conjunction with the land use and transportation and mobility plans, ensuring that any investment, even minimal in nature, over the next 5-years be targeted at the vulnerable populations, thus aiding neighborhood stabilization and our Youth demographics.

Increased emphasis should be placed on implementing alternative methods to address the traditional landscapes that are found throughout many Flint parks today.

By identifying portions or entire public spaces that are unused, transitions to native landscapes shall be prioritized as part of a comprehensive park naturalization process.

This approach is highlighted within the Chevy Commons Greening Project that incorporates both active and passive landscapes with non-traditional greening processes, ultimately reducing long term maintenance costs while providing benefits to infrastructure systems through new green and blue infrastructure methods.

Integrating the many environmental features found within Flint while developing a connected network of parks, open spaces, and infrastructure utilities, all while in alignment with the proposed areas of increased density and activity within the land use plan, should be the highest priority and presents the City with the highest rate of return on future capital improvement projects.

Environmental Features, Open Spaces, & Parks Policy

The following environmental features, open space, and parks policies are derived from the Master Plan and should shape all projects moving forward. These policies should provide a framework for evaluating the merits of any capital improvement project. For detailed discussion of each policy, please refer to the Master Plan section and page referenced.

- **Flint River revitalization.**

One of the defining projects in the revitalization of Flint should be transforming the Flint River and its riverfront into a clean and appealing recreational and entertainment destination. Projects should include increased waterfront park space, re-design of Riverbank Park, increased connectivity to Downtown and neighborhoods, and better utilization of University Pavilion.

Master Plan reference: Flint River, pp. 150-151; Flint River & Waterfront, p. 220.

- **River greenbelt.**

Vacant land adjacent to the Flint River should be assembled for “blue/green infrastructure” that can both absorb rainwater and provide additional natural spaces for residents.

Master Plan reference: Greenbelt (Blue/Green Infrastructure), pp. 151-152.

- **Water quality.**

The Flint River, Thread Lake, Kearsley Reservoir, Flint Park Lake, and other waterways should be protected from pollution and contamination.

Master Plan reference: Water Quality, p. 150.

- **Park access.**

All residents should have reasonable access to safe and attractive parks and natural areas, including having a neighborhood park within ½ mile of their home and a larger park within 1 mile. All park improvements should be ADA compliant.

Master Plan reference: Park Standards, p. 156.

- **Prioritization of hazard elimination.**

While the maintenance of all parks should meet acceptable standards, the first priority of the City should be to eliminate all potential hazards and liabilities, followed by improving aesthetics and making parks more attractive.

Master Plan reference: Park Maintenance, p. 158.

- **Strategic investment.**

Funding should primarily be allocated based on detailed needs assessments, benefits to vulnerable and youth populations, and alignment with the Land Use Plan. A strategic maintenance plan for prioritizing investment should be created and scaled to a reasonable expectation of available funding and resources.

Master Plan reference: Park Maintenance, p. 158.

- **Operation & maintenance.**

Responsibility for each of the City’s parks should be dictated by the number of park users, with small local parks maintained by neighborhood groups and large regional parks transferred to state, county, or regional control. All parks would remain under oversight of a Parks Advisory Board comprised of residents and stakeholders.

Master Plan reference: Park Maintenance, p. 158.

- **Brownfields.**

Where applicable, brownfields such as Chevy in the Hole should be transitioned into public open spaces and other recreational uses. Also work to clean and repurpose into taxable properties where appropriate.

Master Plan reference: Brownfields, p. 160; Flint’s Brownfields, pp. 216-217.

- **Naturalization.**

The transition of under-utilized parkland from manicured turf or fields to native vegetation represents an opportunity to increase park beauty and reduce maintenance costs.

Master Plan reference: Naturalization, pp. 160-161.

- **Carbon emissions.**

The City’s carbon footprint should be lowered through lower consumption levels, renewable energy development, and the adoption of policies and programs that reduce net energy uses at both a household and City-wide level.

Master Plan reference: Reducing Carbon Emissions, p. 162.

ENVIRONMENTAL FEATURES, OPEN SPACE, & PARKS CAPITAL IMPROVEMENT PLAN

Parks & Recreation

The City prepared the City of Flint Parks and Recreation Master Plan 2013-2017 in late 2012, which includes additional information about the park system. Maintenance of a current Park Master Plan is a requirement for eligibility of numerous grant programs and the City is urged to keep this plan updated. The City has been very successful at obtaining various grants to make improvements and, given the budget issues of the City, continued grant acquisition will be needed to make any improvements of significance. Recommendations of the Park Master Plan should be reviewed in concert with Master Plan recommendations to ensure that the distribution of park funding is equitable, serving populations in need, and strategic investments in parks and community centers serve to stabilize neighborhoods.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>Park Forestry Management</p> <p>The City has secured the services of Genesee Conservation District to manage tree removal within the City's network of parks for FY 2015. Using trained forestry staff, and informed by a street and park tree inventory that is currently underway, GCD will ensure that the City's limited forestry funds will be used in a manner that is both equitable and efficient.</p>	I – URGENT	\$10,000	\$10,000	\$0
<p>Park Maintenance Partnership</p> <p>Genesee County will take on maintenance and ranger patrols in four of Flint's largest parks under a two-year pilot program.</p>	I – URGENT	\$40,000	\$40,000	\$0
<p>Kearsley Park Softball Field Improvements</p> <p>Mott Community College is partnering with the City to fund improvements to the Kearsley Park softball field, which Mott intends to use for their women's softball team. Improvements include the installation of evening lighting, dugouts, bleachers, scoreboard, fencing, and the construction of a concession stand/clubhouse.</p>	I – URGENT	\$195,000	\$0	\$195,000
<p>McKinley Park Improvements</p> <p>The City was awarded a Natural Resources Trust Fund grant from MDNR to make improvements to McKinley Park, which is located on Thread Lake. Project will include tennis court renovations, improved waterfront access, new playground equipment and accessibility improvements, pavilion and overlook construction, parking improvements, and related items. Grant to be matched by local donations.</p>	I – URGENT Grant Funds Secured	\$375,000	\$0	\$375,000
<p>Riverbank Park Improvements</p> <p>Make upgrades to meet ADA standards, barrier-free access to amphitheater stage including new railings, landscaping enhancements, and kayak access to river. This project is funded by a grant from the Michigan DNR.</p>	I – URGENT Grant Funds Secured	\$500,000	\$0	\$500,000
<p>Bassett Park Maintenance Partnership</p> <p>Crim Fitness Foundation will take on maintenance and operations oversight in Bassett Park for FY 2015 under a two-year partnership agreement signed in FY 2014.</p>	2 – IMPORTANT	\$5,000	\$5,000	\$0
<p>Durant Park Master Plan CIP</p> <p>Improvements consistent with the park master plan developed in 2012, including basketball upgrades, playground equipment, sidewalk improvements, tree removal, and mower purchase.</p>	2 – IMPORTANT	\$46,300	\$46,300	\$0
<p>Mann Hall Park Master Plan CIP</p> <p>Improvements consistent with the park master plan developed in 2012, including new playground equipment, flag pole, concrete pavilion pad, playground safety surfacing, benches, and landscaping.</p>	2 – IMPORTANT	\$50,635	\$50,635	\$0

**ENVIRONMENTAL FEATURES, OPEN SPACE, & PARKS
CAPITAL IMPROVEMENT PLAN**

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Brennan Park Improvements Improvements to the park and playground equipment.	2 – IMPORTANT	\$55,000	\$15,000	\$40,000
Rollingwood Park Master Plan CIP Improvements consistent with the park master plan developed in 2012, including playground equipment, baseball infield and benches, horseshoe pits, flagpole lighting, fishing dock, scoreboard, bleachers, and lights.	2 – IMPORTANT	\$79,100	\$79,100	\$0
Bassett Park Master Plan CIP Improvements consistent with the park master plan developed in 2012, including filling the side yard, construct storage shed and concrete slab, improve tennis courts and ball diamonds, improve playground, and add mulch to trails.	2 – IMPORTANT	\$124,000	\$110,000	\$14,000
Max Brandon Park Master Plan CIP Improvements consistent with the park master plan developed in 2009, including barrier-free port-a-john access and screen, parking lot improvements, signage, bike racks, pave central connector path, boardwalk overlooks, interpretive signage, improved drainage, fencing, extension of water service, benches, and horseshoe pits and basketball court. Improvements should support naturalization projects.	2 – IMPORTANT	\$167,000	\$167,000	\$0
Woodlawn Park Master Plan CIP Improvements consistent with the park master plan developed in 2012, including constructing a shade structure, play equipment, shade trees, and repair tennis court.	3 – DESIRABLE	\$43,200	\$43,200	\$0
Hardenbrook Park Master Plan CIP Improvements consistent with the park master plan developed in 2013, including pavilion repairs, installation of a new pavilion, benches, picnic tables and grills, landscaping, and new playground equipment.	3 – DESIRABLE	\$87,000	\$87,000	\$0

Naturalization

Naturalization is the transition of parkland from manicured turf or fields to native vegetation. There are many benefits to naturalizing part of Flint's park inventory including a reduction in operating expenses, the creation of a healthier environment through increased local biodiversity, and improved storm-water management.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Park Naturalization Plan Develop a Park Naturalization Plan to identify and prioritize City-owned parks for naturalization and reduced maintenance.	I – URGENT	TBD	TBD	TBD
Max Brandon Park - Park Naturalization/Education Project The City was awarded two (2) grants to promote naturalization within Max Brandon Park through eco-educational curriculum, restoration of the park's wetland, increased access through construction of a boardwalk, and hazardous tree removal. Staff will partner with community groups on activities. In all, \$87,500 was secured to implement strategies from the master plan focusing on improving parks and reducing long-term maintenance in Max Brandon Park over the next two years.	I – URGENT Grant Funds Secured	\$87,500	\$0	\$87,500

ENVIRONMENTAL FEATURES, OPEN SPACE, & PARKS CAPITAL IMPROVEMENT PLAN

Brownfields

Brownfields are parcels of land where the presence of environmental contamination complicates redevelopment. In addition to redeveloping brownfields for economic development and community revitalization purposes, there is a rising interest among communities to redevelop brownfields as environmental assets for active and passive recreation.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Chevy Commons Phytoremediation Phase III Phase III of remediation of Chevy Commons, funding is Great Lakes Restoration Initiative grant.	1 – URGENT Grant Funds Secured	\$400,000	\$0	\$400,000
Chevy Commons Greening Project The project transforming a 60-acre city-owned, former automobile site formally known as Chevy in the Hole, into a low-maintenance, natural area containing grasslands, woodlands, and wetlands. Funded through a \$1.6 million dollar EPA grant, the project will be divided into phases in efforts to acquire additional funding for future project completion. The Master Plan calls for transforming the site into an asset for economic development, as well as a mix of both active and passive community open space.	1 – URGENT Grant Funds Secured	\$1,600,000	\$0	\$1,600,000
Oak Park Decommissioning Located in an inaccessible area surrounded on three sides by the Buick City brownfield site, this park is proposed to be decommissioned and integrated into the redevelopment plans of the area.	3 – DESIRABLE	\$0	\$0	\$0

Flint River Restoration

As a prime natural resource, the Flint River served as the basis for the founding of the City of Flint. Historically, the Flint River was used for drinking water, power, and transportation. Currently, the river is utilized much less, in part due to water quality and infrastructure concerns. In order for the City to successfully achieve its goal related to environmental features and open space, revitalization and enhancement of the Flint River must be a major focal point.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Flint River Restoration Plan - Phase 1 Implementation of the 2010 report "Flint Riverfront Restoration Plan."	3 – DESIRABLE	\$7,100,000	\$7,100,000	\$0
Flint River Restoration Plan - Phase 2 Implementation of the 2010 report "Flint Riverfront Restoration Plan."	3 – DESIRABLE	\$6,700,000	\$6,700,000	\$0
Flint River Restoration Plan - Phase 3 Implementation of the 2010 report "Flint Riverfront Restoration Plan."	3 – DESIRABLE	\$5,300,000	\$5,300,000	\$0
Flint River Restoration Plan - Future Projects Implementation of the 2010 report "Flint Riverfront Restoration Plan."	3 – DESIRABLE	\$40,000,000	\$40,000,000	\$0



Becoming a more sustainable community implies a balanced approach to preserving the environment, enhancing the quality and distribution of services to all citizens, and ensuring the long-term financial viability of all infrastructure.

In 1960, 197,000 people lived in Flint, and the community was bracing for rapid growth around its core industries. Infrastructure was in place to support over 200,000 people. Flint’s population has dropped by 48% since that time, yet the City is still responsible for maintaining infrastructure systems capable of servicing its peak population.

The Infrastructure and Community Facilities Plan in the Master Plan considers ways to tailor infrastructure and services to suit local population centers and anticipated long-term development patterns. The Master Plan establishes a coordinated vision for Flint’s government facilities, infrastructure, and utilities where infrastructure and services are closely coordinated with housing, economic development, the environment, parks and open space, and transportation, as well as a community that is fiscally responsible and able to support these systems in a fair and equitable way.

The City’s Capital Improvement Program includes a series of projects or improvements related to facilities and infrastructure. It identifies specific actions to be completed, and considers anticipated costs, phasing, and funding sources. The Master Plan should be referenced as a guide that provides context for specific decisions and priorities identified in the CIP, specifically considering:

- The potential future benefit of certain actions. These may include long-term cost savings, environmental benefits, increased mobility to important services, and social equity, among others.
- The relative need for specific investments. Some projects may be critical to the health, safety, and welfare of the Flint community, despite also being expensive. These should be considered more immediate action as they may protect other investments in public systems or private development.
- The anticipated impact in achieving other community goals. Investment in infrastructure or municipal services is often critical to successful economic development, the advancement of arts and culture, or healthy transportation options. These are all goals that provide positive returns back to the Flint community.
- Complementary non-municipal resources. While the CIP reflects the City’s intended investment in certain projects, the City should consider funding partners who may make specific actions more attainable in the short-term. This may influence the phasing or priority of some projects and allow the City to attain its vision more quickly.

Project Summary

Total Number of Projects:

105

Total Cost of Projects Listed:

\$129,045,688

Project Examples:

- Condition assessment for City Hall (1 – Urgent)
Total Cost: Undetermined
- Thread Dam replacement (1 – Urgent)
Total Cost: \$655,600
- Water transmission main repairs (2 – Important)
Total Cost: \$72,701,300
- Annual water meter replacement (2 – Important)
Total Cost: \$13,831,300

Additional Information

For additional information regarding this chapter as it pertains to the City of Flint and specific capital improvements, see the “Additional Information” section following the action item tables.

Long Term Projects

Several projects within the CIP will require on-going investment by the City to ensure infrastructure is properly maintained over time and there are a number of necessary projects that are not included. Buildings require not only regular maintenance such as fixing water leaks and performing other repairs, but also regular implementation of capital projects to ensure their longevity. Projects like roof replacements and replacing heating/cooling systems are generally needed on an approximate 20 year cycle.

Several items in this chapter have a cost that will extend beyond the 6-year window identified in the tables. While costs for these projects have been calculated for the 6-year horizon of this CIP, their true cost will accrue over the next 20 years or more. Calculating total cost for each of these projects is difficult due to factors such as inflation and the cost of labor and materials that will fluctuate over the life of the project.

The long term and on-going projects identified in this chapter are summarized in the table below which identifies current annual costs for each, where available.

Projects with significant capital costs for a 20-year or longer lifespan are not necessarily included below given uncertainties on when a capital project will be needed.

Buildings

Some building features have longer lifespans but warrant consideration for replacement to lower operating costs. Items in this classification includes windows and light fixtures. Still other improvements may be needed to address improvements in technology, which continues to evolve. A key unknown for buildings are the results of a recommended study to determine the best option for housing City staff, the results of which will regardless result in recommendations for significant capital expenditures. No long term projects for City buildings are included simply because the results of the recommended study will be the key driving force to what is needed to right-size facilities for City government.

Long Term Projects

PROJECT	CURRENT ANNUAL TOTAL COST	ESTIMATED TOTAL COST
Valve exercising	\$65,000	\$1,300,000+
Water meters	\$515,000	\$10,000,000+
Sewer meters	\$1,300,000	\$26,000,000+
Sewer pipe lining	\$1,700,000	\$3,400,000+
Yard valve replacement	\$220,000	\$4,400,000+
Water transmission mains	\$2,163,000	\$43,000,000+
Hydrant replacement	\$250,000	\$5,000,000+
Root control in sewers	\$360,000	\$7,000,000+
Water department vehicles and equipment	\$485,000	\$8,000,000+

Utilities

Improvements to the City’s utility infrastructure is vital to both the implementation of the Master Plan as well as to optimize the distribution of services to residents and businesses. The City’s various utility departments also have a large number of buildings with the same requirements discussed above. Converting the water supply to the KWA system will necessitate a number of improvements to both the water treatment and water distribution systems. Underground piping systems, valves, hydrants, meters, etc. all have limited lifespans which vary widely. The City owns several dams, with some proposed to be removed, that require regular maintenance to ensure their lifespan is extended to the maximum and reduce the need for costly repairs. Note that items needed for operations are not included, such as chemicals for water treatment, etc.

CIP Vision for Infrastructure & Community Facilities

Imagine an efficient and reliable system of infrastructure and community services that ensures the safety of the Flint community, meets the needs of residents and supports investment in businesses, innovation, and the local economy. Imagine a Flint that serves its residents through an effective local government and quality facilities. Imagine a Flint that invests in infrastructure in order to spark new development, restore the environmental integrity of the area, meet the needs of various activities throughout the City, and is not only capable, but is also dependable.

CIP Overview

The City has an overwhelming task of addressing its numerous dated facilities and the tremendous amounts of inefficient and aging water and sewer infrastructure. Immediate improvements to the water and sewer system should be prioritized so they address the areas contributing to the most substantial water losses within the city.

In concert with the land use plan areas identified as primary residential, business, and economic hubs, improvements should be prioritized to meet the needs of the business community while ensuring quality services for Flint’s tax-paying residents. Future capital improvements in place types with lower densities should have a lower priority in order to ensure the highest cost/benefit ratio.

Immediate actions should also be taken to right-size the facilities within the city. Substantial decline in staffing levels as well as decades of inadequate preventative maintenance has resulted in millions of dollars needed to just improve these public places to satisfactory levels. A study shall be conducted to look at alternatives for major sites such as City Hall and the Police and Fire headquarters, while also considering the disposition of the buildings to be vacated and sold.

Historical Infrastructure Borrowing:

The City is presented the unique ability to borrow against a handful of funds for water infrastructure upgrades and improvements. Utilizing the Storm water, Asset Management, and Wastewater (SAW) program and the Drinking Water Revolving Loan Fund, the City has been successful in borrowing funds in the past and is currently paying off roughly \$2.2 million/year. A recent grant submission was denied for FY2015 funding.

Infrastructure & Community Facilities Policy

The infrastructure and community facilities policies are derived from the Master Plan and should shape all projects moving forward. These policies should provide a framework for evaluating the merits of any capital improvement project. For detailed discussion of each policy, please refer to the Master Plan section and page referenced.

- **Infrastructure, services, & Land Use Plan alignment.**

The provision of infrastructure and community services throughout the City should be aligned with the Land Use Plan, with land use typologies informing “right-sizing,” and investment decisions.

Master Plan reference: Infrastructure & Future Land Use, pp. 175-176.

- **Sustainability.**

Green technology should be leveraged to reduce energy costs, improve air quality, and increase long-term sustainability. While sustainable approaches to infrastructure improvements may require additional up front costs, long term cost savings should be considered when evaluating project costs.

Master Plan reference: Sustainable & Renewable Infrastructure, p. 177.

- **Facility maintenance & efficiency upgrades.**

To ensure the long-term viability of City facilities, the City should conduct on-going maintenance, employ new technologies, increase energy efficiency, and identify consolidation opportunities.

Master Plan reference: Government Facilities, p. 178.

- **Adaptive reuse.**

Vacant civic facilities, such as schools, should be repurposed for a variety of new uses, such as community centers or senior housing.

Master Plan reference: Diversifying Housing Options, pp. 93-95; School Re-Use, p. 103; Flint Community Schools – Adaptive Reuse, pp. 181-182.

- **Central High School redevelopment.**

Evaluate consolidation of Flint’s two high schools into one central location at the vacant Central High School and Whittier Middle School campus.

Master Plan reference: High School Locations, p. 182.

- **Sanitary & storm sewer system.**

Sewer systems should receive necessary ongoing maintenance as recommended by staff and engineers, and short-term upgrades and long-term capital improvements including investments in green infrastructure should be identified, planned, and budgeted for.

Master Plan reference: Sanitary Sewer System, p. 185; Storm Sewer System, p. 185.

- **Dams.**

The Hamilton and Utah Dams should be removed, the Fabri Dam should be reconstructed, the Kearsley Dam should receive maintenance, the need for the Holloway Dam should be assessed, and a fish passage should be constructed at Thread Dam.

Master Plan reference: Dams, p. 186.

- **Potable water.**

Support development of the Karegnondi Water Pipeline and continue to make infrastructure investments that can reduce the long-term cost of water and increase service efficiency.

Master Plan reference: Potable Water, p. 187.

- **Private utilities.**

The City should proactively negotiate service agreements with private utility providers to ensure residents are receiving the best services and lowest costs, and also work with said providers to identify emerging technologies that can make Flint more economically competitive.

Master Plan reference: Private Utilities, p. 188.

- **Multi-year budgeting.**

The City should practice multi-year budgeting and forecasting, recognizing that this will help plan for projects spanning multiple fiscal years and provide a firm understanding of expected future revenues.

Master Plan reference: Efficient City Governance, p. 188.

**INFRASTRUCTURE & COMMUNITY FACILITIES
CAPITAL IMPROVEMENT PLAN**

City Hall

Flint’s administrative center consists of a number of buildings, including City Hall, City Hall North, City Hall South, and City Hall Dome, collectively totaling over 187,000 square feet. Constructed in 1956, these four buildings house a majority of Flint’s governmental operations and are in need of extensive upgrades, repairs, system replacement, and maintenance. Significant reductions in staffing at departments housed at the City Hall complex has resulted in significant portions of the buildings being underutilized. The list of necessary capital improvements for the four City Hall buildings is only a portion of what is likely needed, and there are serious questions as to the long-term viability of the buildings considering their age, condition, and cost of corrections needed.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>Study to determine options for housing City Hall staff</p> <p>Commission a comprehensive study of the Civic Center Complex facilities to determine best option to right-size in the most cost-effective manner. Options could include consolidation into existing buildings that are in the best condition and demolition of others, demolition of all and construction of new facilities, moving City operations/staff into leased building in the Downtown, constructing new facility in the Downtown, etc. City should enlist a committee to develop a comprehensive scope of services for a Request for Proposals that includes budget to adequately investigate the existing facilities and options and costs available to house City operations long-term.</p>	I – URGENT	TBD	TBD	TBD
<p>City Hall Dome drains</p> <p>Repair roof drains at the City Hall Dome to fix leaks.</p>	I – URGENT	\$1,640	\$1,640	\$0
<p>City Hall North Building Roof</p> <p>Repairs to the roof on the City Hall North Building to fix areas that currently leak.</p>	I – URGENT	\$99,384	\$99,384	\$0
<p>City Hall chiller</p> <p>Replace 1 of 2 chillers at City Hall.</p>	I – URGENT	\$155,000	\$155,000	\$0
<p>Emergency repairs</p> <p>Annual cost of \$225,000 for emergency repairs to various City facilities. Cost is for 6 years.</p>	I – URGENT	\$1,350,000	\$1,350,000	\$0
<p>Walkway between Police and City Hall</p> <p>Repair and seal walkway between Police Station and City Hall.</p>	2 – IMPORTANT	\$20,000	\$20,000	\$0
<p>Council Chambers light fixtures</p> <p>Convert existing light fixtures to LED to save energy costs.</p>	2 – IMPORTANT	\$24,000	\$24,000	\$0
<p>City Hall Dome repairs</p> <p>Various maintenance and repairs to the City Hall Dome.</p>	2 – IMPORTANT	\$90,000	\$90,000	\$0
<p>Building Management System</p> <p>Upgrades to the BMS controls.</p>	2 – IMPORTANT	\$148,000	\$148,000	\$0
<p>Window replacement</p> <p>Replacement of single pane, aluminum frame windows in City Hall. Energy Analysis Report identified payback of 15 years in energy savings.</p>	2 – IMPORTANT	\$400,000	\$400,000	\$0

**INFRASTRUCTURE & COMMUNITY FACILITIES
CAPITAL IMPROVEMENT PLAN**

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>City Hall façade</p> <p>Remove existing and replacement of the façade of City Hall. Existing marble siding is falling off the building and is a safety hazard. Gaps behind the marble allow water intrusions, exacerbating the problem.</p>	2 – IMPORTANT	\$3,000,000	\$3,000,000	\$0
<p>City Hall heating/cooling system</p> <p>Total replacement and upgrades of controls and boilers chillers to the City Hall heating/cooling system.</p>	2 – IMPORTANT	\$3,300,000	\$3,300,000	\$0
<p>Separate utility meters</p> <p>Separate the utility meter for City Hall, Police HQ, and Fire Station #1 to monitor energy use.</p>	3 – DESIRABLE	\$24,000	\$24,000	\$0
<p>City Hall ceilings</p> <p>Replacement of ceiling tiles throughout City Hall.</p>	3 – DESIRABLE	\$90,000	\$90,000	\$0
<p>City Hall 7th Street parking lot</p> <p>Rehabilitation of parking lot at City Hall.</p>	3 – DESIRABLE	\$100,000	\$100,000	\$0
<p>City Hall 5th Street parking lot</p> <p>Rehabilitation of parking lot at City Hall.</p>	3 – DESIRABLE	\$132,000	\$132,000	\$0
<p>Council Chambers renovations</p> <p>Renovations to Council Chambers to include windows, painting, and ceiling, and IT upgrades to add projection screens.</p>	3 – DESIRABLE	\$350,000	\$350,000	\$0
<p>Information technology improvements</p> <p>Includes a variety of IT improvements, including backup servers, new Dell workstations, routers and switches, software, cabling and fiber, etc. Long-term needs should be assessed to prioritize and fund projects.</p>	3 – DESIRABLE	\$3,730,246	\$3,730,246	\$0

INFRASTRUCTURE & COMMUNITY FACILITIES CAPITAL IMPROVEMENT PLAN

Other City Facilities

City facilities outside of the City Hall complex, public safety departments, and public works are limited. The primary facilities in this category include the Street Maintenance & Sanitation Department, public parking lots, District Court, and other uncategorized sections. All of these facilities have needs for various maintenance, and should be considered generally important to fund as soon as possible. A number of projects were identified during discussion with City staff and are presented below; however, a comprehensive evaluation of the Street Maintenance & Sanitation Department facility has not been performed and is needed to ensure all projects are accounted for:

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
12th Street garage roof repairs Repairs to the garage used to service the City fleet vehicles (located at the Street Maintenance & Sanitation Department facility).	1 – URGENT	\$266,900	\$266,900	\$0
Street Maintenance & Sanitation Department facility improvements Various capital improvements needed at the facility that would be identified following a comprehensive audit of the facility.	2 – IMPORTANT	TBD	TBD	TDB
District Court improvements In coordination with future District court consolidation, repairs, maintenance, and more at the District Court building and grounds that are the responsibility of the City per the lease agreement with Genesee County (the owner of the building).	2 – IMPORTANT	\$125,000	\$125,000	\$0
Parking lot lighting New lighting for the Stevens Street/7 th Street/City Hall/Police Station parking lot to improve safety. Lot is currently not lit.	3 – DESIRABLE	\$250,000	\$250,000	\$0

Water Department

The Water Department is responsible for the treatment and distribution of potable water to customers utilizing an extensive infrastructure system. Their facilities include six dams, related facilities, pumping stations and storage facilities, and conveyance systems of approximately 600 miles of distribution and transmission pipes and appurtenances. The existing water system was designed to service a much larger population and industrial base. The City recently stopped purchasing water from the Detroit Water and Sewerage Department and is currently supplying treated water drawn from the Flint River until the necessary structures are in place for water supply from the Karegnodi Water Authority (KWA).

Dams

The six dams owned and operated by the City are critical to the water supply system of Flint. This is even more important currently as the City is entirely dependent on the Flint River to supply water to its customers. Capital projects on the six dams that require expenditures of City funds should be kept to the minimum needed to prevent further degradation of the dams and to meet regulatory requirements until such time as higher priority projects in the City have been completed. In accordance with the Flint River Restoration Plan, dams that can be removed should be considered for removal and funding sought from various sources that promote dam removal.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Thread Dam improvements Replace dam.	1 – URGENT	\$655,600	\$655,600	\$0
Hamilton Dam Removal Removal of the Hamilton Dam and restoration with rock cascades.	1 – URGENT	\$3,500,000	\$1,060,000	\$2,500,000
City-Wide Dam Inspection & Maintenance Plan Develop a comprehensive plan to address the City's six failing and/or obsolete dams. In addition to the two noted above, Kearsley Dam, Fabri Dam, Utah Dam, Holloway dam should be addressed.	3 – DESIRABLE	TBD	TBD	TBD

INFRASTRUCTURE & COMMUNITY FACILITIES CAPITAL IMPROVEMENT PLAN

Buildings & Related Facilities

The Water Department has a number of buildings and related facilities for which they are responsible. The most significant is the Water Treatment Plant (WTP), which includes Plant 2 (Plant 1 has been decommissioned), a water testing laboratory, and a number of smaller facilities. Previously, the WTP operated an average of 20 days per year as water from Detroit was treated, but the plant will be operated on a continual basis now, and in the future, due to the change to KWA supplied water. A significant number of upgrades, equipment replacement, and regular maintenance are required for the WTP to properly receive, treat, and transmit water to the conveyance system. The Water Department is also responsible for the Water Service Center and a variety of large vehicles and other equipment.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Security cameras Install security cameras at water treatment plant.	1 – URGENT	\$10,900	\$10,900	\$0
Fencing Water plant security fencing.	1 – URGENT	\$109,300	\$109,300	\$0
Roof replacement Plant 2 lab and operations center.	1 – URGENT	\$257,500	\$257,500	\$0
SCADA upgrades Upgrades of Supervisory Control and Data Acquisition (SCADA) to allow system to operate more efficiently and with lower labor costs by using SCADA to operate and analyze the water system and its operation.	1 – URGENT	\$836,400	\$836,400	\$0
Electrical upgrades Electrical upgrades at various facilities.	1 – URGENT	\$1,167,100	\$1,167,100	\$0
Roof replacements At various pump stations throughout the system.	1 – URGENT	\$2,000,000	\$2,000,000	\$0
Alum feed system Alum feed system for water treatment process.	2 – IMPORTANT	\$39,300	\$39,300	\$0
Phosphoric acid feed system Phosphoric acid feed system for water treatment.	2 – IMPORTANT	\$185,800	\$185,800	\$0
Post filtration system Post filtration system for water treatment process.	2 – IMPORTANT	\$387,200	\$387,200	\$0
Water Plant rehabilitation Rehabilitation of Phase II, Segment I.	2 – IMPORTANT	\$1,030,000	\$1,030,000	\$0
Drum gate rehabilitation At Holloway Dam.	2 – IMPORTANT	\$1,600,000	\$1,600,000	\$0
Vehicles, dump trucks, flatbed, tractor, etc. Annual cost for 6 years. FY 15 budget \$484,100.	2 – IMPORTANT	\$3,200,000	\$3,200,000	\$0

**INFRASTRUCTURE & COMMUNITY FACILITIES
CAPITAL IMPROVEMENT PLAN**

Pumping Stations & Storage Facilities

The Water Department operates several pumping and water storage facilities:

- Dort Reservoir and Pumping Stations No. 3. (PS #3) and No. 4 (PS #4) -primarily used for emergency water storage and for use during peak water demand periods.
- Cedar Street Reservoir and Pumping Station -primarily used as an emergency water supply and a pumping source during peak demand events.
- West Side Reservoir and Pumping Station -primarily used as an emergency water supply and a pumping source during peak demand events.
- Torrey Road Pumping Station -primarily used as an in-line booster pumping station to increases pressure in the southwest portion of the City.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Electrical upgrades At Cedar Street Pump Station.	I – URGENT	\$120,000	\$120,000	\$0
Pump replacement Pump station #3 pump with variable frequency drive (VFD).	I – URGENT	\$140,000	\$140,000	\$0
Electrical upgrades New feeder to pump station 4.	I – URGENT	\$466,600	\$466,600	\$0
Pump replacement Replace pumps 1 and 2 at pump station #4 new pumps with VFD.	I – URGENT	\$522,000	\$522,000	\$0
Roof replacement Westside pump station.	I – URGENT	\$1,200,000	\$1,200,000	\$0
Lift pump station Plant 2 to Dort Reservoir.	I – URGENT	\$2,100,000	\$2,100,000	\$0
Valve rebuild Elevated tank altitude valve.	2 – IMPORTANT	\$54,600	\$54,600	\$0

**INFRASTRUCTURE & COMMUNITY FACILITIES
CAPITAL IMPROVEMENT PLAN**

Conveyance Systems & Appurtenances

The conveyance system of the Water Department includes all transmission and distribution pipes, valves, hydrants, and water meters. A majority of the system has adequate transmission piping to convey sufficient flows and pressure for fire protection. The distribution and transmission systems, however, are old and in serious need of replacement. A large number of water main breaks occur every year and are repaired by staff, with a significant number of breaks occurring due to the harsh 2013-14 winter season. As projects are considered, opportunities should be evaluated to right-size the water distribution system and make the most effective and efficient use of existing infrastructure.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Water line loop Install 24" loop at the WTP to increase distribution options.	2 – IMPORTANT	\$100,000	\$100,000	\$0
Valve exercising Operate the approximately 1,430 valves throughout the system on an annual basis	2 – IMPORTANT	\$400,000	\$400,000	\$0
Raw water line Provide raw water line to Pump Station 4.	2 – IMPORTANT	\$636,500	\$636,500	\$0
Yard valves Replace yard valves, cost is for 6 years.	2 – IMPORTANT	\$914,000	\$914,000	\$0
Hydrant replacement program Replace hydrants throughout the City on 20-25 year rotation, cost is for 6 years. FY 15 cost \$250,000.	2 – IMPORTANT	\$2,800,000	\$2,800,000	\$0
Water meters Annual replacement of water meters throughout the system, cost is for 6 years. FY 15 cost \$515,000, annual increase of 3%.	2 – IMPORTANT	\$13,831,300	\$13,831,300	\$0
Transmission main 3800' of transmission main at various locations annually, cost is for 6 years. FY 15 cost \$2,163,000, annual increase of 3%.	2 – IMPORTANT	\$16,700,000	\$16,700,000	\$0

INFRASTRUCTURE & COMMUNITY FACILITIES CAPITAL IMPROVEMENT PLAN

Sewer Department

The Sewer Department is responsible for the collection and treatment of wastewater at various facilities, most notably the wastewater treatment plant referred to as the Water Pollution Control Facility (WPCF). The City has an extensive sanitary and storm sewer collection and treatment system that includes approximately 569 miles of gravity sanitary sewers and force mains, 11 pump stations, an 8-foot 6-inch deep tunnel, a Retention Treatment Basin (RTB), the WPCF, a number of associated buildings, and 350 miles of storm sewers.

Green Infrastructure

The Master Plan calls for the development of green infrastructure to absorb rainwater, reduce flooding, and lessen the burden on the City's sewer infrastructure. The City should also promote the use of Best Management Practice (BMPs) and Low Impact Development (LID) techniques that help protect and restore water quality while reducing the quantity of stormwater run-off throughout the City.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Green Infrastructure Assessment Undertake a study to identify opportunities for the implementation of large scale green infrastructure projects that will limit the volume of storm water entering the sewer system.	I – URGENT	TBD	TBD	TBD

Buildings & Related Facilities

The Sewer Department operates the Water Pollution Control Facility (wastewater treatment plant) and 29 buildings at the WPCF grounds. The buildings on the grounds of the WPCF are of variable age and condition and require a variety of upgrades, replacement of equipment, and regular maintenance to properly treat collected wastewater and discharge it to the Flint River. The Department has similar needs to that of the Water Department for large vehicles and other equipment.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Wastewater Plant roof Repair roof at WPC.	I – URGENT	\$106,100	\$106,100	\$0
Disinfection process upgrades Improvements to processes for treating wastewater.	I – URGENT	\$150,000	\$150,000	\$0
Air diffuser upgrades Battery A.	I – URGENT	\$190,000	\$190,000	\$0
Lighting upgrades Lighting upgrades at WPC.	I – URGENT	\$212,200	\$212,200	\$0
HVAC upgrades HVAC upgrades at WPC.	I – URGENT	\$400,000	\$400,000	\$0
Samplers Samplers at WPC.	2 – IMPORTANT	\$35,000	\$35,000	\$0
Air compressor Air compressor.	2 – IMPORTANT	\$44,000	\$44,000	\$0
Primary tank rebuild Rebuild primary tank at WPC.	2 – IMPORTANT	\$75,000	\$75,000	\$0

**INFRASTRUCTURE & COMMUNITY FACILITIES
CAPITAL IMPROVEMENT PLAN**

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Sump pumps Sump pumps.	2 – IMPORTANT	\$85,000	\$85,000	\$0
Lighting panel upgrades Upgrade lighting panel at WPC.	2 – IMPORTANT	\$87,400	\$87,400	\$0
Biosolids load out facility engineering For biosolids load out facility.	2 – IMPORTANT	\$90,000	\$90,000	\$0
Coarse bubble diffusers Coarse bubble diffusers at WPC.	2 – IMPORTANT	\$100,000	\$100,000	\$0
Biogas pump house Biogas pump house.	2 – IMPORTANT	\$100,000	\$100,000	\$0
Isolation gates Battery B.	2 – IMPORTANT	\$100,000	\$100,000	\$0
Isolation gates Battery B isolation gates.	2 – IMPORTANT	\$106,100	\$106,100	\$0
Meter replacement Final effluent meter.	2 – IMPORTANT	\$109,300	\$109,300	\$0
Meter replacement Battery A influent meter.	2 – IMPORTANT	\$109,300	\$109,300	\$0
Air diffuser upgrades Battery B.	2 – IMPORTANT	\$109,300	\$109,300	\$0
Outdoor lighting Lighting at WPC.	2 – IMPORTANT	\$130,000	\$130,000	\$0
Vehicle storage addition Addition to vehicle storage.	2 – IMPORTANT	\$130,000	\$130,000	\$0
Heavy mobile equipment Purchase of heavy equipment required to respond to emergency repairs.	2 – IMPORTANT	\$163,900	\$163,900	\$0
Controls Root blowers at WPC.	2 – IMPORTANT	\$175,000	\$175,000	\$0
HVAC equipment HVAC improvements at WPC.	2 – IMPORTANT	\$200,000	\$200,000	\$0
Aeration blower replacement Replace aeration blower at WPC.	2 – IMPORTANT	\$238,700	\$238,700	\$0

INFRASTRUCTURE & COMMUNITY FACILITIES CAPITAL IMPROVEMENT PLAN

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Final tank installation Install final tank at WPC.	2 – IMPORTANT	\$274,488	\$274,488	\$0
Sludge cake storage Storage facility for sludge cakes.	2 – IMPORTANT	\$327,800	\$327,800	\$0
Concrete repairs Major concrete repairs at WPC.	2 – IMPORTANT	\$380,000	\$380,000	\$0
Blower header insulation Insulate blower header.	2 – IMPORTANT	\$437,100	\$437,100	\$0
Grit piping Battery B.	2 – IMPORTANT	\$491,700	\$491,700	\$0
Concrete coatings Concrete coatings.	2 – IMPORTANT	\$600,000	\$600,000	\$0
Sodium hypochlorite Purchase of sodium hypochlorite used in water treatment process.	2 – IMPORTANT	\$650,000	\$650,000	\$0
Final tank retrofits At final 4 tanks at WPC.	2 – IMPORTANT	\$695,200	\$695,200	\$0
Solids disposal Ultimate disposal of solids.	2 – IMPORTANT	\$800,000	\$800,000	\$0
Headworks & bar screens Headworks and bar screens at WPC.	2 – IMPORTANT	\$1,000,000	\$1,000,000	\$0
Lab Remodeling of lab, new equipment, sample lines, and ventilation.	2 – IMPORTANT	\$1,000,000	\$1,000,000	\$0
Biosolids load out facility Construction of biosolids load out facility at WPC.	2 – IMPORTANT	\$1,300,000	\$1,300,000	\$0
4160 volt switchgear 4160 volt switchgear at WPC.	2 – IMPORTANT	\$2,185,500	\$2,185,500	\$0
Vehicles, dump trucks, vector, etc. Annual cost for 20 years. FY 15 budget \$370,800 with 3% annual increase.	2 – IMPORTANT	\$9,352,700	\$9,352,700	\$0
Battery A grit chamber Replacement of Battery A grit chamber.	2 – IMPORTANT	\$5,500,000	\$5,500,000	\$0

INFRASTRUCTURE & COMMUNITY FACILITIES CAPITAL IMPROVEMENT PLAN

Pumping Stations & Storage Facilities

The City operates 11 pump stations. Storage facilities include an 8-foot 6-inch deep tunnel and a Retention Treatment Basin (RTB). The flow is transported through a series of interceptors to the three main feeder pump stations (East Pump Station, Third Avenue Pump Station, and Northwest Pump Station). These three main pump stations then pump the flow to the WPCF for treatment.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Electrical upgrades Various lift stations.	1 – URGENT	\$82,000	\$82,000	\$0
Replace lift station. Replace lift station 6.	1 – URGENT	\$250,000	\$250,000	\$0
Replacement pumps At northwest pump station.	1 – URGENT	\$318,300	\$318,300	\$0
Switchgear at EPS Replace switchgear at East Pump Station.	1 – URGENT	\$450,900	\$450,900	\$0
Replace pumps East pump station.	1 – URGENT	\$655,600	\$655,600	\$0
Replacement pump Third Avenue pump station.	1 – URGENT	\$1,700,000	\$1,700,000	\$0
Electrical switchgear Third Avenue pump station.	1 – URGENT	\$1,900,000	\$1,900,000	\$0
Retention basin Improvements at retention basin at WPC, including metering, concrete work, and chemical feed upgrades.	2 – IMPORTANT	\$100,000	\$100,000	\$0
High pressure header Third Avenue pump station.	2 – IMPORTANT	\$300,000	\$300,000	\$0

**INFRASTRUCTURE & COMMUNITY FACILITIES
CAPITAL IMPROVEMENT PLAN**

Conveyance Systems & Appurtenances

The City has an extensive sanitary sewer collection and treatment system that includes approximately 569 miles of gravity sewers and force mains. The majority of the gravity sewers were constructed between the 1920s and 1950s, consisting mostly of vitrified clay, concrete, and some newer polyvinyl chloride (PVC) segments. The sanitary manholes are either block or pre-cast concrete. The Huron-Camden and Northwest areas have been identified as problems areas with regards to inflow and infiltration (I/I), based on studies conducted in the past.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Manhole rehab in floodplains Replace perforated covers and rehab/lining of manholes located within floodplains to reduce water inflow/infiltration (I/I).	1 – URGENT	\$1,200,000	\$1,200,000	\$0
Root control Root control within existing pipes to remove roots which might block waste flow, cost is for 20 years. FY 15 budget \$360,500 with annual 3% increase.	1 – URGENT	\$9,331,830	\$9,331,830	\$0
Pipe lining Lining of existing pipes to reduce water infiltration, cost is for 6 years. FY 15 budget \$1,689,200.	1 – URGENT	\$10,800,000	\$10,800,000	\$0
Major valve repairs Repair major valves in system.	2 – IMPORTANT	\$200,000	\$200,000	\$0
Meter replacement Annual payment cost for 6 years. FY 15 budget. \$1,287,500.	2 – IMPORTANT	\$8,400,000	\$8,400,000	\$0

Additional Information

City Hall

Flint's administrative center consists of a number of buildings, including City Hall, City Hall North, City Hall South, and City Hall Dome, which collectively total more than 187,000 square feet. According to City Facilities, Grounds, & Maintenance Division staff, the condition of these buildings ranges from poor to fair. Constructed in 1956, these four buildings house a majority of Flint's governmental operations and are in need of extensive upgrades, repairs, system replacement, and maintenance. Significant reductions (well over 50% from historic levels) in staffing at departments housed at the City Hall complex has resulted in significant portions of the buildings being unused or used for storage.

The list of necessary capital improvements for the four City Hall buildings is only a portion of what is likely needed, and there are serious questions as to the long-term viability of the buildings considering their age, condition, and cost of corrections needed. The City should consider a study of alternative options for right-sizing their facilities to meet projected staffing needs, either in a renovated facility that is purchased or leased or a new facility constructed in the Downtown area. The study could also look at partnerships with the County for a combined City-County Government Complex. The study would also need to consider the disposition of the existing complex and buildings to be vacated if the study shows this to be the most viable option.

The administrative center complex at one time was considered to be an architectural masterpiece, but due to outdated components, lack of maintenance, and energy inefficiencies the buildings require extensive emergency repairs and extensive maintenance has been deferred due to budgetary constraints. City Hall North is essentially vacant due to staff reductions and a leaking roof. The existing windows in all buildings are single pane, aluminum frame and highly inefficient, as are the light fixtures inside and outside the buildings. The boilers and chillers are 80% efficient at best and in need of replacement soon. The marble on the façade, once a major contributor to the beauty of the building, suffers from water intrusions that have caused these large marble slabs to fall off the building. Significant information technology improvements are needed throughout to modernize computer servers, other hardware, and cabling. The elevators at City Hall break down regularly and create a safety hazard to users trapped inside until repairs can be made. The pavement in the parking lot used by employees is in very poor condition. Sidewalks are in various states of disrepair and in need of replacement.

Other City Facilities

City facilities outside of the City Hall complex, public safety departments, and public works are limited. The primary facilities in this category would include the Street Maintenance & Sanitation Department, public parking lots, District Court, and anything else that does not fit into another category or department. All of these facilities have needs for various maintenance, and should be considered to generally be important to fund as soon as possible. A number of projects were identified during discussion with City staff and are presented below; however, a comprehensive evaluation of the Street Maintenance & Sanitation Department facility has not been performed and is needed to ensure all projects are accounted for:

Water Department

The Water Department is responsible for the treatment and distribution of potable water to customers utilizing an extensive infrastructure system. Their facilities include six (6) dams, numerous buildings and related facilities, pumping stations and storage facilities, and conveyance system of approximately 600 miles of water distribution and transmission pipes and appurtenances. The existing City water system was designed to service a much larger population and significantly more industry than is currently being served.

Several factors over the years have gradually reduced the demands on the water infrastructure. The water supply for the City has historically been provided by the Detroit Water and Sewerage Department through a 72-inch transmission main from Lake Huron. However, the City has joined the Karegnondi Water Authority (KWA), comprised of the Genesee County Drain Commissioner, Lapeer County Drain Commissioner, City of Lapeer, Sanilac County Drain Commissioner, and the City of Flint.

The purpose of the KWA is to provide and distribute raw water to an area encompassing over 2,400 square miles and over half a million people. A number of studies were completed by the City that considered the various options for the water supply and it was determined that the best long-term solution for the City would be to join the KWA. The City ended their contract for the purchase of water from Detroit and is currently supplying treated water drawn from the Flint River until the KWA water intake structure, pipelines, and pumping stations from Lake Huron are completed. Construction of the intake structure began in 2013 and the project is moving forward.

The various facilities of the Water Department have been grouped below to allow for an individual discussion of each. The current water system has twice the storage and pumping capacity that is needed to operate the system. A number of options to reduce pumping and storage were identified in a Water Reliability Study (prepared by Rowe and Potter Consulting in 2011).

Implementing these operational changes going forward will allow the city to operate more cost effectively and concentrate on upgrading and maintaining key infrastructure.

It is important to note that the City's water system suffers from a number of problems which can be at least partially corrected by making the necessary capital improvements, which should be prioritized and completed to be consistent with the implementation of the Master Plan and modified as needed. The most prevalent problems were discussed in great detail in the Water Reliability Study, including the age and efficiency of the water system. Much of the water distribution system is over 70 years old and is in need of rehabilitation or replacement. There is a significant amount of watermain in the system that is over 70 years old, prone to breaks, and unable to provide modern pressures and fire flows.

Water system efficiency analysis indicated that the City of Flint system is at 68.41% (i.e., only 68.41% of the water that was purchased from Detroit was recovered by user fees). This indicates that the city has significant leaks, inaccurate meters and/or illegal connections to the system. This inefficiency results in lost revenue in the range of \$1.5 million to \$2.0 million dollars per year. A program to improve the water system efficiency should be put in place. A high priority should be placed on implementing a program to reduce the unaccounted for water.

Dams

The six dams owned and operated by the City are critical to the water supply system of Flint as well as providing various recreational opportunities. This is even more important currently as the City is entirely dependent on the Flint River to supply water to its customers. Various studies have been done on the dams to determine their condition and future plans for either replacement or removal. Improvements to Hamilton Dam, built in 1920, have been mandated by the state due to its poor condition and deteriorating structural deficiencies. A study was completed by the City in 2008 that evaluated various options. Hamilton Dam is located just upstream from Fabri Dam. Fabri Dam is an inflatable dam in the downtown area constructed in 1979 for visual and recreational enhancement. The 2008 study reviewed options for its removal.

Utah Dam was built in 1928 to prevent industrial oil discharges from entering the City's water intakes and is located downstream from both Holloway Reservoir and Kearsley Creek. Utah Dam serves no viable purpose and the gates are permanently locked in an open position. As such, the dam has been recommended for removal. Holloway Dam was constructed in 1953 for potable water supply and flow augmentation of wastewater effluent. The Holloway Reservoir serves as emergency back-up supply of water, with a storage capacity of 17,500 acre-feet of water, and is the structure furthest upstream in the system. Kearsley Dam, constructed in 1928 for water and ice supply, has a storage capacity of 1,800 acre-feet and is used primarily for recreation and occasional flow augmentation. Kearsley Creek joins the Flint River a short distance downstream from the dam just upstream from Utah Dam.

Thread Dam, also built in 1928, impounds 80 acres of water on Thread Creek, providing recreational opportunities. Thread Creek joins Swartz Creek west of the lake, with Swartz Creek flowing into the Flint River downstream of the other five dams. Capital projects on the six dams that require expenditures of City funds should be kept to the minimum needed to prevent further degradation of the dams and to meet regulatory requirements until such time as higher priority projects in the City have been completed. In accordance with the Flint River Restoration Plan, dams that can be removed should be considered for removal and funding sought from various sources that promote dam removal for river restoration and removal of barriers for boating and fish movement.

Buildings & Related Facilities

The Water Department has a number of buildings and related facilities for which they are responsible. The most significant is the Water Treatment Plant (WTP), which includes Plant 2 (Plant 1 has been decommissioned), a water testing laboratory, and a number of smaller facilities. The WTP was put into service in 1954 and significant upgrades were completed in 2006 to meet state regulatory requirements. Recently, a number of additional upgrades were made to facilitate the use and treatment of Flint River water during the transition from Detroit to KWA supplied water. The WTP operated an average of 20 days per year previously since water from Detroit was treated but the plant is now, and will be in the future, operated on a continual basis. A significant number of upgrades, replacement of equipment, and regular maintenance are required for the WTP to properly take in raw water, treat it through the entire process, and transmit treated water to the conveyance system. In addition to the facilities at the WTP, the Water Department is also responsible for the Water Service Center and the Water Department has a need for a variety of large vehicles and other equipment.

Pumping Stations & Storage Facilities

The Water Department operates several pumping and water storage facilities.

- Dort Reservoir and Pumping Stations No. 3. (PS #3) and No. 4 (PS #4) – located at the WTP, the reservoir is a 20-million gallon (MG) ground storage facility. This facility was constructed in 1966 and is used primarily for emergency water storage and for use during peak water demand periods. PS #4 total pumping capacity is 46 million gallons per day (MGD) with a firm pumping capacity of 26 MGD. The pumping station was rehabilitated in 1994 with two new 20 MGD pumps and one 6 MGD pump to induce turnover of the Dort Reservoir. This pumping station is primarily used to provide supply from the Dort Reservoir during emergency situations and peak demand events. A 2.0 MG elevated water storage tank is also located at the WTP that is used primarily for emergency water storage and as a pressure buffer. The elevated tank fills and drains as system demands and pressures dictate. A 3.0 MG ground storage tank is also located at the WTP complex. This storage tank was constructed in 1954 and is used primarily as an emergency water supply and pumping source during peak demand events.

- Cedar Street Reservoir and Pumping Station – the Cedar Street Reservoir is a 20 MG ground storage facility located between I-69 and Swartz Creek, off of Cedar Street. This facility was constructed in 1948 and is primarily used as an emergency water supply and a pumping source during peak demand events. The pumping station electrical controls have not been updated since the original construction. The station requires significant upgrades to bring it up to current automatic operation standards. The pumping station is equipped with three pumps installed in 1948 and are primarily used to supply water from the Cedar Street reservoir during emergency events and peak demand periods. This pumping facility has a total pumping capacity of 30 MGD and a firm pump capacity of 18 MGD. Pump operation and filling of the reservoir can be controlled from the WTP or manually at the pumping station. The pumping station is equipped with chlorination facilities to provide additional chlorine residual as needed.
- West Side Reservoir and Pumping Station – the West Side Reservoir is a 12 MG ground storage facility located near Mackin Road and Jean Avenue. This facility was constructed in 1970 and is primarily used as an emergency water supply and a pumping source during peak demand events. The West Side Pumping Station is equipped with four pumps, all installed in 1970, and has a total pumping capacity 24 MGD with a firm pump capacity of 16 MGD. Pump operation and filling of the reservoir can be controlled from the WTP or manually at the pumping station. The pumping station is equipped with chlorination facilities to provide additional chlorine residual as needed.
- Torrey Road Pumping Station – the Torrey Road pumping station is equipped with two pumps installed in 1954. The station has a total pump capacity of 6.8 MGD and a firm pump capacity of 2.8 MGD. The primary function of this station is as an in-line booster pumping station to provide increased pressures to the southwest portion of the city. This pumping station takes suction from the 24" transmission main along Hammerburg Road and discharges to the 18" transmission main supplying the southwest pressure district. There is no standby power provided to this pumping station.

Conveyance Systems & Appurtenances

The conveyance system of the Water Department includes all transmission and distribution pipes, valves, hydrants, and water meters. The conveyance system of the City of Flint consists of water mains ranging in size from 4" to 72" in diameter. Many of these mains exceed 70 years old, and the majority are constructed of cast iron or ductile iron pipe up to 24" in diameter. Transmission mains larger than 24" are primarily constructed of steel piping. A majority of the system has adequate transmission piping to convey sufficient flows and pressure for fire protection. The distribution and transmission systems, however, are old and in serious need of replacement. A large number of water main breaks occur every year and are repaired by staff, with a significant number of breaks occurring due to the harsh 2013-14 winter season. These breaks result in water service disruptions and potential water quality problems to customers. The system appurtenances are generally over 50 years old and in constant need of repair or replacement as well.

As projects are considered, opportunities should be evaluated to right-size the water distribution system and make the most effective and efficient use of existing infrastructure. In accordance with the Master Plan, infrastructure may be modified to provide the level of service appropriate for a given place type.

The information below is summarized directly from the Water Reliability Study.

- **Piping System.** Much of the City of Flint's water distribution system is over 70 years old and is in need of rehabilitation or replacement. There is a significant amount of 4" watermain in the system that is over 70 years old, prone to watermain breaks, and unable to provide modern pressures and fire flows. The 20-year plan for the water distribution system is twofold: 1) rehabilitate or replace the primary transmission system that serves the City and 2) abandon 4" watermains where there is a suitable parallel main or replace the 4" with 8". The priority of these replacements should be consistent with the needs of the Master Plan implementation. The Water Department has also included replacement of 3,800 feet of transmission mains annually, the prioritization of which should consider severity of current problems, needs for implementation of the Master Plan, and ability to service high water users adequately.

• **Valves.** The City of Flint distribution system currently has a total valve count of 7,258 valves to be operated and maintained (20 72" valves, 66 24"–72", 737 16"–20", 1,398 12", and 4,462 <12). Critical valves are 16" and larger valves that are on the primary transmission mains around the city and in the event of a break in a major transmission main, valve failure, or multiple valve failures, could result in shutting down a significant portion of the city. The Water Reliability Study noted that there are 1,418 critical valves in the system and these valves should receive primary attention. Primary attention would consist of operating the valves on a rotating two-year basis and making all repairs and replacements that are necessary. Approximately 700 critical valves would be operated and maintained each year. Subcritical valves are the 12" valves on minor transmission mains and the failure of one or more of these valves could result in shutting down a residential area. There are 1,398 subcritical valves in the system. These valves should receive secondary attention which would consist of a 5-year plan for operation and maintenance. This would require that approximately 280 valves be operated and maintained each year. Normal valves are any valve smaller than 12" and the failure of one or more of these valves would shut down a small residential area. There are 4462 of these valves in the system and these valves should receive operation and maintenance attention on a 10-year rotating basis.

Approximately 450 valves would require attention each year. The total valve operation and maintenance program would require that approximately 1,430 valves receive routine maintenance each year in addition to any emergency repair and replacement that is required during the course of a year.

• **Hydrants.** The City of Flint has 3,605 hydrants in the water system and many are in excess of 50 years old. In the spring of 2010 the City purchased 80 hydrants to begin replacing old hydrants. Similar to the asset management approach to the valve maintenance, the plan for hydrants would include a transition from reactive maintenance to planned maintenance and replacement. The goal would be to analyze the hydrant age in the system and begin to change out hydrants in excess of 50 years old and then over a period of twenty years create a system where hydrant age did not exceed 25 years.

Sewer Department

The Sewer Department is responsible for the collection and treatment of wastewater at various facilities, most notably the 50 MGD wastewater treatment plant referred to as the Water Pollution Control Facility (WPCF) located at G-4652 Beecher Road. The City of Flint also accepts wastewater from the Beecher Metropolitan Sewer District (BMSD). The WPCF has a peak capacity of approximately 85 MGD. The City has an extensive sanitary and storm sewer collection and treatment system that includes approximately 569 miles of gravity sanitary sewers and force mains, 11 pump stations (1 additional pump station on the system is operated by BMSD), an 8-foot 6-inch deep tunnel (10 MG of storage), a 10 MG Retention Treatment Basin (RTB), WPCF and a number of associated buildings, and 350 miles of storm sewers.

The WPCF provides primary and secondary treatment to the sanitary wastewater, with primary treatment consisting of physical removal of suspended solids via grit tanks and primary sedimentation basins. Secondary treatment is performed through the activated sludge process, which consists of aeration and final settling tanks. Chlorination and dechlorination, using liquefied and gaseous chlorine and sulfur dioxide, is used to disinfect the final effluent prior to its discharge into the Flint River. Even though the sanitary and storm sewer systems are separated, the 10 MG capacity of the RTB can be exceeded, resulting in a discharge to the river. All overflows receive skimming, settling, and disinfection prior to release. Since January of 2009, the City has experienced 11 partially treated discharges.

The City was awarded a State Revolving Fund (SRF)/Strategic Water Quality Initiatives Fund (S2) Grant from the Michigan Department of Environmental Quality (MDEQ) in 2011 (study prepared by Rowe and Fishbeck, Thompson, Carr, & Huber, Inc. in 2013). The scope of the grant-funded engineering study included smoke testing in areas of the City suspected of containing sources of inflow and infiltration (I/I), as well as a sanitary manhole inspection program focusing on the manholes located along the creeks and rivers where water was suspected of entering the sanitary system during high river elevations. The Sewer System Evaluation Study (SSES) included smoke testing of approximately 2,397 manholes and the inspection of 256 manholes along the rivers. Although the sanitary system is separated, wet weather brings significant flow increases into the system. Most footing drains are connected to the sanitary system; however, during these large rain events, the City's deep tunnel and RTB's capacity can be exceeded, and it results in discharges from the RTB to the Flint River:

Green Infrastructure

The Master Plan calls for the development of green infrastructure to absorb rainwater, reduce flooding, and lessen the burden on the City's sewer infrastructure. The City should also promote the use of Best Management Practice (BMPs) and Low Impact Development (LID) techniques that help protect and restore water quality while reducing the quantity of stormwater run-off throughout the City. Vacant or underutilized parcels within Green Neighborhood and Green Innovation place types may also present opportunities for large scale green infrastructure projects.

Buildings & Related Facilities

The Sewer Department operates the Water Pollution Control Facility (wastewater treatment plant) and 29 buildings at the WPCF grounds. The buildings on the grounds of the WPCF are of variable age and condition and require a variety of upgrades, replacement of equipment, and regular maintenance to properly treat the wastewater collected from system users and discharge it to the Flint River consistent with regulatory requirements. The Department has similar needs to that of the Water Department for large vehicles and other equipment.

Pumping Stations & Storage Facilities

As mentioned above, the City operates 11 pump stations. Storage facilities include an 8-foot 6-inch deep tunnel (10 MG of storage) and a 10 MG Retention Treatment Basin (RTB). The deep tunnel was constructed of concrete in the late 1970s as part of the RTB project. The flow is transported through a series of interceptors to the three main feeder pump stations (East Pump Station, Third Avenue Pump Station, and Northwest Pump Station). These three main pump stations then pump the flow to the WPCF for treatment. Both the East Pump Station and the Northwest Pump Station are located next to the WPCF. The Third Avenue Pump Station is located southeast of the WPCF and requires 18,181 feet of force main to send the flows to the WPCF.

The 8-foot 6-inch tunnel is upstream of the East Pump Station and discharges to the station. During large rain events, the tunnel is used for storage. The flow is allowed to accumulate in the tunnel and the East Pump Station pumping rate is reduced to allow the flow from the Northwest Pump Station and Third Avenue Pump Station to be pumped to the WPCF without restriction. The latter have essentially no storage capability, and must pump according to flow received. If the flows from the Northwest Pump Station and Third Avenue Pump Station exceed the capacity of the WPCF, the excess flow is diverted to the 8-foot 6-inch tunnel through the same 48" pipe that normally conveys sewage from the East Pump Station to the WPCF. Should the rain event be large enough to fill the tunnel, then flow from the tunnel will overflow to the 10 MG RTB for temporary storage. The RTB provides skimming and disinfection should its capacity be exceeded, prior to discharging flows to the river.

Conveyance Systems & Appurtenances

The City has an extensive sanitary sewer collection and treatment system that includes approximately 569 miles of 8" to 72" gravity sewers and force mains, with manholes at regular intervals. The majority of the gravity sewers were constructed between the 1920s and 1950s, consisting mostly of vitrified clay, concrete, and some newer polyvinyl chloride (PVC) segments. The sanitary manholes are either block or pre-cast concrete. Televising portions of the system during the 2011 SSES revealed joint integrity to have been compromised along sections of the interceptors adjacent to Swartz and Thread Creek. Both sections of interceptors televised had root balls reducing the flow capacity at multiple locations by as much as 80 to 90%. The video also shows stretches of pipe with root infiltration at every joint, reducing flow capacity ranging from 15 to 50%. Some minor infiltration was observed; however, the root balls hindered the camera progress through the sections of pipe at the creek crossings and therefore potential inflow from the creeks was not determined.

The integrity of the pipe itself appeared to be sound; however, most joints appeared to have some separation where root infiltration was present. This separation could potentially allow infiltration to occur during wet weather conditions. There was some sediment buildup observed in a few spots along the interceptors; however, there was not enough to reduce capacity of the interceptor.

Manhole inspections were performed on the manholes that parallel Swartz, Carman, Gilkey and Thread Creeks. The creeks are upstream of Meter 9 which appears to have significant inflow and infiltration (I/I). Ninety-three (93) manholes with perforated covers, which would be submerged during a "design storm" or a larger wet weather event, were found. Besides the perforated covers, several manholes were found to be in poor condition structurally and leaking. The Huron-Camden and Northwest areas have been identified as problems areas with regards to I/I, based on studies conducted in the past.

Additional and more recent studies had flow meters strategically placed in the sanitary trunk line sewers around the City. These flow meters identified a significant flow increase to the sanitary system during rain events throughout the City. In the past, the use of dye testing procedures was used to identify cross-connections with some degree of success. However dye testing does not allow for a complete identification of all potential inflow sources; therefore, smoke testing of the system was the most economical and timely procedure to identify additional sources of I/I. The purpose of smoke testing was to identify potential sources of significant I/I through cross connections between sanitary and storm sewer collections systems. The smoke testing was performed as a team effort between City staff and ROWE.



Economic development and education will form the foundation of the future of Flint. There will need to be multi-sector alignment and substantial investments in people, places, and planning to achieve the City's economic development vision.

The City of Flint was built on the automotive industry. While the auto industry continues to play an important role in the economy, other sectors are evolving including life sciences, transportation, distribution/logistics, advanced manufacturing, and information technology. The emergence of these and other industries is needed to diversify the City's economy and create growth and new opportunities for employment.

In addition, the City must also recognize that the 21st century economy is unpredictable and in constant flux. To stay competitive moving forward the City must continually and proactively reassess its economic development strategies and targeted sectors of investment to meet changing market needs.

To realize the economic development and education vision and goals of the Master Plan, the City must support and invest in their facilities and infrastructure. Specifically, Flint should concentrate and coordinate work force and economic development facilities in line with the Master Plan, strive to reuse Brownfield sites for productive purposes, and ensure that educational facilities and opportunities are well connected and reinforced by the City's capital improvements and infrastructure.

Project Summary

Total Number of Projects:

14

Total Cost of Projects Listed:

\$47,394,556

Project Examples:

- Complete streets conversion of Harrison Street to allow for multi-modal travel and improve pedestrian safety (2 – Important)
Total Cost: \$300,000
- Milling and resurfacing of Robert T. Longway Boulevard (2 – Important)
Total Cost: \$2,966,607

Long Term Projects

Several projects within the CIP will require on-going investment by the City to ensure infrastructure is properly maintained over time and there are a number of necessary projects that are not included. The Master Plan and CIP include a large number of projects for Economic Development & Education but the list is by no means comprehensive. The City's recovery can be accelerated by improvements to the infrastructure identified, as well as future projects that are not currently known.

Numerous items in this chapter have a cost that will extend beyond the 6-year window identified in the tables. While costs for these projects have been calculated for the 6-year horizon of this CIP, their true cost will accrue over the next 20 years or more. Calculating total cost for each of these projects is difficult due to factors such as inflation and the cost of labor and materials that will fluctuate over the life of the project.

The long term and on-going projects identified in this chapter are summarized in the table below which identifies current annual costs for each, where available.

Projects with significant capital costs for a 20-year or longer lifespan are not necessarily included below given uncertainties on when a capital project will be needed.

Project Partnerships

Many of the potential projects in this category will be driven by availability of both grant funding and having project partners. The projects listed in the CIP should be evaluated for their effectiveness in accomplishing the established goals of the Master Plan and similar projects implemented elsewhere. Partnering with businesses, Flint Community Schools, institutions, and medical campuses can accelerate this recovery.

CIP Vision for Economic Development & Education

Imagine Flint as a dynamic college town, a center of innovation and entrepreneurship, a top destination for medical sector companies, an international hub for trade and transportation and a community where residents of all backgrounds share equally in Flint's economic rebirth. Imagine an entrepreneurial youth population, equipped for success through a robust education system and an extensive network of local businesses and institutions. Imagine a thriving small business scene, where aspiring business owners are empowered to open shops in neighborhoods across the City. Imagine transforming our current liability of vacant land into new green spaces for economic growth, creating jobs for residents in alternative energy, local food production, or "green initiatives" fields.

Long Term Projects

PROJECT	CURRENT ANNUAL TOTAL COST	ESTIMATED TOTAL COST
Various Safe Routes to Schools projects	Varies	TBD
Neighborhood Center Improvements	Varies	TBD
Traffic calming projects	Varies	TBD

CIP Overview

A sluggishly growing economy with a surplus of available workforce labor and inexpensive, vacant commercial space can be found throughout all areas of Flint. Reshaping the economy in Flint is a primary principle of the Master Plan and is addressed through a variety of new, unique place types that focus increased improvements and investment strategically within these areas.

Neighborhood Centers, City Corridors, Commerce & Employment Centers, Production Centers, and the Innovation District should represent the focus of future economic development initiatives and capital upgrades. Prioritized projects that address traffic flow and increased mobility along the roadways can help foster the development of high-quality places aiding potential future growth.

By emphasizing repairs and enhancements to these areas of perceived development, nodes of higher density and activity can develop creating enhanced options for workforce development, employment centers, and future residential market demand. By reducing the importance on capital projects within current areas of commercial build slated for future areas of non-commercial, the City can focus its limited resources to invest in the future to achieve the goal of reshaping the economy.

Key Partners

It is important to remember that some of Flint's largest institutions, such as Flint Community Schools, University of Michigan-Flint, Kettering University, Mott Community College, Baker College, and Hurley and McLaren Medical Centers, have significant capital improvement needs and confront similar challenges in funding projects. This presents the City with a unique opportunity to coordinate our capital improvement efforts, seek additional cost savings by combining projects, jointly applying for grants, and eliminating reiterative work.

Developing stronger ties with Flint Community Schools on capital improvements has great potential given that many schools (open and closed) are located next to City parks, such as the Stewart School and Brennan Park. This connectivity allows for cooperation on maintenance and on improvements to facilities. In the case of closed schools, this would help position the vacant buildings for adaptive reuse. Examples of school adaptive reuse projects include community centers, art centers, and Flint's own Oak Street School, which has been transformed into apartments for seniors.

Economic Development & Education Policy

The economic development and education policies are derived from the Master Plan and should shape all projects moving forward. These policies should provide a framework for evaluating the merits of any capital improvement project. For detailed discussion of each policy, please refer to the Master Plan section and page referenced.

- **Community education.**
The City and Flint Community Schools should work together to reestablish a sustainable version of community education, with schools serving as “homebases” within neighborhoods and providing programming, meeting space, and social services.
Master Plan reference: Community Education, p. 205.
- **K-12 and college curriculum integration.**
Social and educational partnerships should be developed between Flint’s public schools, Kettering University, UM-Flint, Baker College, and Mott Community College in order to better prepare Flint’s K-12 students for college.
Master Plan reference: Integrating K-12 with Higher Education, p. 208.
- **Workforce development.**
Adults, especially ex-offenders and those struggling with literacy, should be provided with opportunities to gain additional education, skills, and training.
Master Plan reference: Adult Workforce Development, pp. 208-209.
- **Small business support.**
Incentives, incubators, and assistance programs should be used to encourage small business development in the City Corridor and Neighborhood Center place types, especially in underserved areas experiencing significant levels of retail leakage.
Master Plan reference: Supporting Small Businesses, pp. 210-213.
- **Growth industries.**
The City and its economic development partners should target retention and expansion efforts at the following six industries, which were determined by the Flint Regional Cluster Project to offer the highest potential for growth: life sciences; transportation, distribution, and logistics; automotive and transportation equipment manufacturing; machinery manufacturing; information technology; and food manufacturing.
Master Plan reference: Flint Regional Cluster Project, p. 203.
- **Blue and green economy.**
Leverage Green Innovation areas and the construction of the Karegnondi Water Pipeline for the creation of new “green” and “blue” jobs.
Master Plan reference: Green Initiatives, p. 214; Blue Economy, p. 214.
- **Commercial area demolition & revitalization.**
A Commercial Areas Investment Framework, grounded in the Land Use Plan, should be developed that can create a targeted framework for demolition, public investment, and reuse of commercial properties.
Master Plan reference: Redeveloping & Repurposing Properties, pp. 215-216.
- **Brownfields.**
Capitalize on Flint’s existing infrastructure and well-connected transportation network to spur redevelopment of the Buick City and Delphi East brownfield sites, in alignment with the Land Use Plan.
Master Plan reference: Redeveloping & Repurposing Properties, pp. 215-216.
- **Downtown revitalization.**
Four catalyst projects were identified that can best continue revitalization efforts in the Downtown area: (1) development of the Flat Lot; (2) restoration of Capitol Theatre; (3) redevelopment of Riverbank Park, including better utilization of the University Pavilion and new waterfront park space; and (4) creation of the Flint Health and Wellness District.
Master Plan reference: Downtown Flint, pp. 218-220.
- **Innovation District.**
The City should encourage increased physical, social, and transportation linkages between key employers and institutional anchors clustered around the center of the City, from McLaren Regional Medical Center in the west through Downtown to Delphi East in the east.
Master Plan reference: Innovation District, p. 221.
- **New residents.**
Residential growth into the City should be encouraged and incentivized, particularly for foreign-born immigrants, current commuters, veterans, young professionals, and city employees living in Flint.
Master Plan reference: Attracting New Residents, pp. 224-226.

**ECONOMIC DEVELOPMENT & EDUCATION
CAPITAL IMPROVEMENT PLAN**

Placemaking

The concept of “placemaking” is based on a single principle – people choose to settle in places that offer the amenities, social and professional networks, resources and opportunities to support thriving lifestyles. Flint can attract and retain talent – especially young, knowledge-based talent – through strategic capital improvements that focus on improving the sense of place within its economic districts, corridors, and neighborhood centers.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>Innovation District Comprehensive Plan</p> <p>The Innovation district stretches from the McLaren Regional Medical center in the west, to Mott Community College in the east, and also contains Flint’s Downtown, Kettering University, and other civic and cultural assets. The physical relationships between these areas is loosely defined and a comprehensive plan is needed to improve district cohesion and mobility. The plan will include transportation and wayfinding improvements to benefit motorized and non-motorized navigation and access, while finding opportunities for parks, squares, and aesthetic choices in order to create a distinct identity for the district.</p>	2 – IMPORTANT	\$150,000	TBD	TBD
<p>Grand Traverse Greenway Trail</p> <p>Construction of a 3-mile multi-use trail on the abandoned CSX Railroad to connect Downtown Flint, the Flint River, and surrounding neighborhoods to the southern part of the City. Will create new links between Flint’s colleges, medical centers, schools, recreation areas, and two major development sites. The trail will start just east of the Chevy in the Hole site and run south past a parking lot at Atherton and South Saginaw Street to the city limits. It also will connect to the Flint River Trail.</p>	2 – IMPORTANT	\$452,000	\$452,000	\$0
<p>Harrison Street Complete Streets Conversion</p> <p>Complete streets conversion Harrison including incorporation of bike lanes, pedestrian safety islands, planters, and decorative paving. The project will include realignment of Harrison at Saginaw to create a T-intersection. Cost includes PE, construction, and CE.</p>	2 – IMPORTANT	\$800,000	TBD	\$800,000
<p>Wayfinding Signage – Innovation District</p> <p>Expand wayfinding program to roadways within the Innovation District, consistent with the design of the Downtown wayfinding program.</p>	3 – DESIRABLE	TBD	TBD	TBD

**ECONOMIC DEVELOPMENT & EDUCATION
CAPITAL IMPROVEMENT PLAN**

Transportation & Mobility

The ability to move efficiently through a municipality is important to attracting new residents, preparing for new investment, and demonstrating the economic vitality of the local market. Projects included focus on improvements and enhancements that will create greater mobility along commercial corridors and attract target resident's looking for greater pedestrian accessibility and safety.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>International Academy Safe Routes to School Improvements</p> <p>The International Academy is working with the Michigan Fitness Foundation's Safe Routes to School Program to implement pedestrian improvements around the school. Improvements include: replacing sections of sidewalk along Oakley Street and Saginaw Street, updating ADA ramps and installing pedestrian heads at Oakley and Grand Traverse Street, and repainting crosswalks and updating pedestrian lights at Oakley and Saginaw.</p>	2 – IMPORTANT	\$167,658	TBD	TBD
<p>Kearsley Street</p> <p>Milling and resurfacing of existing pavement, pavement repairs, manhole adjustments, and reconstruction of curb ramps from Chevrolet Avenue to Beach Street. Cost includes PE, construction, and CE.</p>	2 – IMPORTANT Grant Funds Secured	\$1,193,091	\$238,618	\$954,473
<p>Robert T. Longway Boulevard - Center to Dort</p> <p>Milling and resurfacing of existing pavement, pavement repairs, manhole adjustments, and reconstruction of curb ramps from Center Road to Dort Highway. Cost includes PE, construction, and CE.</p>	3 – DESIRABLE	\$1,133,407	\$226,682	\$906,725
<p>Robert T. Longway Boulevard - Dort to I-475</p> <p>Milling and resurfacing of existing pavement, pavement repairs, manhole adjustments, and reconstruction of curb ramps from I-475 to Dort Highway. Cost includes PE, construction, and CE.</p>	3 – DESIRABLE	\$1,833,400	\$366,680	\$1,466,720
<p>Leith Street</p> <p>Total reconstruction with storm sewer upgrades, new sidewalk, drive approaches, ADA ramps, and signals from Dort to Saginaw, which would restore east-west access across I-475 and Buick City and provide access on the north side of the City. Cost includes PE, construction, and CE.</p>	3 – DESIRABLE	\$18,750,000	\$3,750,000	\$15,000,000

**ECONOMIC DEVELOPMENT & EDUCATION
CAPITAL IMPROVEMENT PLAN**

Commercial Area Enhancement

A number of infrastructure and development enhancements can be made to improve the City’s commercial areas and better prepare these areas for future growth. A significant part of this process is the demolition of blighted or underutilized commercial structures to best enable growth and development along important commercial and retail nodes.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>Oak Business Center Facility Improvements</p> <p>Current large parking lot (formerly the lot of an auto dealership) needs to be replaced. Asphalt will be torn out and replaced and new striping put down.</p>	2 – IMPORTANT	\$175,000	TBD	TBD
<p>Commercial Structure Demolitions</p> <p>Working from the Blight Elimination Framework, commercial demolition and rehabilitation should occur in areas prioritized according to conforming land use designations as noted in the framework. 432 blighted commercial structures have been identified as priority demolitions to enhance economic development within City commercial/retail nodes.</p>	2 – IMPORTANT	\$21,600,000	TBD	TBD
<p>Neighborhood Center Business Development</p> <p>To promote economic development activities within the City, a program/initiative focusing on neighborhood commercial centers as identified in the Land Use plan should be launched where the neighborhood and City are working together to promote reinvestment and revitalization. Efforts should be made to provide assistance in the redevelopment of blighted or physically distressed commercial buildings to ensure commercial occupancy. Projects could include exterior improvements (walls, foundations, facade, roof repair), site design improvements, and interior improvements.</p>	3 – DESIRABLE	TBD	TBD	TBD

Information Technology Upgrade

Information Technology Services for the City of Flint is responsible for planning and upgrading the information technology systems that allow the City to remain responsive and efficient when providing services to residents. A goal of the City is to develop free wireless internet accessibility in key community areas.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>Consolidation & Construction of City Owned Fiber Optic Network</p> <p>The construction and upgrade of Fiber optic communication lines that connect City offices in a Metropolitan Area Network (MAN) can strategically be done with Collaboration and consolidation partners such as the GISD and local universities can connect networks. The benefits are lower operating costs and more control and flexibility. Investment lasts 12 Years.</p>	2 – IMPORTANT	\$240,000	\$240,000	\$0
<p>Mesh Wireless Internet Accessibility for Residents</p> <p>A community run wireless network could be created with Mesh technology. Currently this technology is being piloted in Detroit and can be applied to Flint.</p>	3 – DESIRABLE	\$900,000	TBD	TBD



8 CAPITAL IMPROVEMENT PLAN PUBLIC SAFETY, HEALTH & WELFARE

Crime affects not only the everyday quality of life for Flint’s residents, but also the City’s regional and national perception. Moving forward, increasing the safety of residents will be dependent upon providing adequate resources to our at-risk youth; finding innovative new strategies, technologies, and partnerships to prevent crime; and sustaining effective, proactive, and responsive police and fire departments.

The transportation systems that this CIP works to improve and inspire are important not for their own sake but for the public safety, health, and welfare that they work to advance. Healthy transportation choices will rely on investment in sidewalks, bike paths, and supporting systems that provide full accessibility to all residents, regardless of age or level of mobility.

Social service providers and community organizations must reinforce agencies and institutions that provide health care and education. Through this holistic and collaborative approach, the Flint community will be empowered to instill positive change that leads to a healthier population and a higher quality of life.

Project Summary

Total Number of Projects:

25

Total Cost of Projects Listed:

\$4,809,400

Project Examples:

- Improvements to the electrical system at the Police Station (2 – Important)
Total Cost: \$200,000
- Updates and maintenance to Fire Station I (2 – Important)
Total Cost: \$145,000

Additional Information

For additional information regarding this chapter as it pertains to the City of Flint and specific capital improvements, see the “Additional Information” section following the action item tables.

Long Term Projects

Several projects within the CIP will require on-going investment by the City to ensure infrastructure is properly maintained over time and there are a number of necessary projects that are not included. Public safety and community center buildings have the same requirements as other City buildings for regular maintenance such as fixing water leaks and performing other repairs and also regular implementation of capital projects to ensure their longevity.

Implementation of the ICMA study will be key in determining the capital improvements needed at the City's public safety facilities.

Numerous items in this chapter have a cost that will extend beyond the 6-year window identified in the tables. While costs for these projects have been calculated for the 6-year horizon of this CIP, their true cost will accrue over the next 20 years or more. Calculating total cost for each of these projects is difficult due to factors such as inflation and the cost of labor and materials that will fluctuate over the life of the project. The long term and on-going projects identified in this chapter are summarized in the table below which identifies current annual costs for each, where available.

Projects with significant capital costs for a 20-year or longer lifespan are not necessarily included below given uncertainties on when a capital project will be needed.

CIP Vision for Public Safety, Health & Welfare

Imagine Flint as one of the safest cities in the country, with a proactive and technologically-savvy police force trusted by residents. Imagine Flint as a regional hub for fresh and locally grown produce, where a thriving movement of entrepreneurial growers transforms vacant lots into gardens and provides healthy food to schools, farmers markets, restaurants, and stores across the City. Imagine all of Flint's youth growing up in stable neighborhoods that are clean, safe, and welcoming, patrolled by police officers known to residents and home to community centers providing around-the-clock activities and services for youth.

CIP Overview

The City faces a constant battle against extremely high levels of crime and the general health welfare of Flint residents. Strapped with debilitating staffing levels, public safety operations must be at the forefront of efficiency to ensure adequate service support for the Flint community. Old and dysfunctional facilities must be prioritized first and receive significant improvements and upgrades in order to meet the growing need and demand for smart, data driven policing and fire safety procedures. As noted previously in the community facilities section, a study to determine the feasibility of full rehabilitation or potential new build remains of substantial importance.

Long Term Projects

PROJECT	CURRENT ANNUAL TOTAL COST	ESTIMATED TOTAL COST
Police Station and Service Centers	Varies	TBD
Fire Stations	Varies	TBD
Community Centers	Varies	TBD

Key Partners

The City only has five community centers: Haskell, Berston, Hasselbring, Brennan, and McKinley. Two of these centers are so well utilized that they have already exceeded their capacity, demonstrating a clear need for community centers in the City, especially for youth.

Throughout the Master Plan, youth overwhelmingly voiced that there are no safe places to go. Youth often cited this fact as a reason from high crime in the City. Thus, it is critical that the City work with community partners to raise substantial funds to make much needed upgrades to these community facilities. Sadly, with the City's fiscal crisis, little has been done to these facilities, but based on the priorities outlined in the Master Plan, funding improvements to these facilities must be a priority. When cities have invested in community centers, they often have seen significant declines in crime.

ICMA Study

Public safety related projects may be modified based on the results of an International City/ County Management Association (ICMA) study currently underway. Commissioned through funding from the State of Michigan and CS Mott Foundation, the study will provide data-driven recommendations on a blueprint for reorganizing the City's scarce resources into a more efficient and effective service delivery. The study is expecting to be completed in Q1 2015 and costs \$85,100 to be completed.

Public Safety, Health & Welfare Policy

The public safety, health, and welfare policies are derived from the Master Plan and should shape all projects moving forward. These policies should provide a framework for evaluating the merits of any capital improvement project. For detailed discussion of each policy, please refer to the Master Plan section and page referenced.

• Facility maintenance & location.

To ensure the long-term viability of the City's public safety facilities, the City should conduct on-going maintenance, employ new technologies, increase energy efficiency, and identify consolidation opportunities. The location of Neighborhood Service Centers should be aligned with the Land Use Plan.

Master Plan reference: State-Of-The-Art Police & Fire Departments, pp. 238-239; Government Facilities, p. 178.

- **Police & Fire Department staffing.** New revenue streams and strategies should be identified that can help sustain adequate personnel levels, including grants, inter-department collaboration, and possible creation of an auxiliary or reserve force.

Master Plan reference: State-Of-The-Art Police & Fire Departments, pp. 238-239.

- **Crime Prevention through Environmental Design (CPTED).**

Environmental contributions to crime should be eliminated through strategies such as territoriality, natural access control, informal surveillance, regular maintenance, and code enforcement.

Master Plan reference: Crime Prevention through Environmental Design, p. 242.

- **Community policing & holistic partnerships.**

The City and law enforcement entities should take a holistic approach to public safety through partnerships with community organizations, social service providers, educators, and health providers that can build trust with residents and offer alternative paths to at-risk youth and ex-offenders. The development of “wrap-around community centers” was identified by residents as one of the most important steps towards achieving this end.

Master Plan reference: Community Partnerships, pp. 242-244.

- **Flint Police Neighborhood Service Centers.**

Supported through volunteers, the Flint Police Neighborhood Service Centers support community policing operations and are used for various community activities and training programs. They serve as neighborhood accessible locations for area residents seeking crime prevention information or to get assistance with using the Online Citizens Police Reporting system - COPLOGIC. The City currently operates three service centers and is planning on opening two more in 2015. The Service Centers are rent and cost free to the City.

Master Plan reference: Community Policing, p. 242.

- **Healthcare access.**

While the City’s role in health-care is very limited, it should actively support policies, practices, and funding opportunities that increase awareness of existing services, expand services, increase accessibility of facilities, and reduce citizen dependence on drugs, alcohol, and smoking.

Master Plan reference: Community Partnerships, pp. 242-244.

- **Urban food production.**

Vacant lots and green space should be used for localized food production that can generate affordable fresh foods for residents.

Master Plan reference: Nutrition & Access to Produce, pp. 250-252.

- **Physical activity & exercise.**

Changes in policies, programs, and the built environment (e.g. walkability and bikeability) should play a proactive role in reversing poor health trends and increasing healthy lifestyles.

Master Plan reference: Physical Activity & Exercise, pp. 252-253.

**PUBLIC SAFETY, HEALTH, & WELFARE
CAPITAL IMPROVEMENT PLAN**

Police Department

The facilities of the FPD include Police Headquarters, located on the City Hall Complex site, along with several neighborhood service centers. The headquarters facility has a number of issues associated with it. Constructed at the same time as City Hall (1956), the 62,400 square foot building suffers from many of the same problems and inefficiencies. The City should consider including in a study of options for right-sizing their facilities to meet projected staffing needs of the Police Department, especially the headquarters. Opportunities could also exist as part of the implementation of the Master Plan to repurpose FCS facilities into combined police mini-stations/community centers/senior centers.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Police Station Bridge to 5th Street Improvements to the public access from 5 th Street. Includes improvements for emergency exit from facility by employees.	1 – URGENT	\$30,000	\$30,000	\$0
Flint City Lock-Up Door Replacements Replace doors in temporary lock-up facility located on the 3rd floor of Police Station. Doors currently do not operate or close as they should.	1 – URGENT	\$50,000	\$50,000	\$0
Bishop & MLK Service Center Improvements to the Service Center that are needed.	1 – URGENT	\$50,000	\$50,000	\$0
Police Station Roof Repairs Repairs to the roof to prevent and correct leaks.	1 – URGENT	\$100,000	\$100,000	\$0
Police Station Electrical Upgrades Improvements to the electrical system at the Police Station.	2 – IMPORTANT	\$200,000	\$200,000	\$0
Police Shooting Range Improvements to police shooting range.	2 – IMPORTANT	\$250,000	\$250,000	\$0
Police Station Remodeling Remodeling of interior space.	2 – IMPORTANT	\$250,000	\$250,000	\$0
Police Station HVAC Improvements to the heating and cooling system at Police Station.	2 – IMPORTANT	\$1,685,000	\$1,685,000	\$0

**PUBLIC SAFETY, HEALTH, & WELFARE
CAPITAL IMPROVEMENT PLAN**

Fire Department

The Fire Department includes six (6) fire stations (with old Station 5 and Station 7 being closed and station #8 currently “browned out”) which all have needs to varying degrees for upgrades or other improvements. There is no comprehensive facility assessment known for any of the fire stations and this should be considered. It is very likely that these facilities have many of the same issues as others of the City, with the added concerns of FFD staff being on duty 24 hours, 365 days a year.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
Atherton Road Station Roof Repair Repairs to the roof at the Atherton Road Fire Station.	1 – URGENT	\$10,000	\$10,000	\$0
Fire Station 2 Roof Repairs to the roof at Fire Station 2.	1 – URGENT	\$15,000	\$15,000	\$0
Fire Station 1 Roof Replacement Replace roof at Fire Station 1.	1 – URGENT	\$127,400	\$127,400	\$0
Fire Station 1 Kitchen Remodeling of the kitchen at the main Fire Station.	2 – IMPORTANT	\$60,000	\$60,000	\$0
Fire Station 5 Miscellaneous Items Updates and maintenance to miscellaneous items at Fire Station 5, including security upgrades, Nederman unit, bay door, refrigerator, etc.	2 – IMPORTANT	\$90,000	\$90,000	\$0
Fire Station 8 Miscellaneous Items Updates and maintenance to miscellaneous items at Fire Station 8, including tiles, plumbing, Nederman unit, HVAC unit, etc.	2 – IMPORTANT	\$95,000	\$95,000	\$0
Fire Station 6 Miscellaneous Items Updates and maintenance to miscellaneous items at Fire Station 6, including minor roof repairs, HVAC unit, tiles, lighting, painting, etc.	2 – IMPORTANT	\$96,500	\$96,500	\$0
Fire Station 1 Miscellaneous Items Updates and maintenance to miscellaneous items at Fire Station 1, including a new HVAC unit, carpeting, ceiling tiles, painting, etc.	2 – IMPORTANT	\$145,000	\$145,000	\$0
Fire Station 3 Miscellaneous Items Updates and maintenance to miscellaneous items at Fire Station 3, including a new AC unit, minor roof repairs, parking lot gate, bay door, etc.	2 – IMPORTANT	\$150,000	\$150,000	\$0
Fire Station 4 Miscellaneous Items Updates and maintenance to miscellaneous items at Fire Station 4, including various systems and furnishings.	2 – IMPORTANT	\$150,000	\$150,000	\$0
Fire Station 1 HVAC Improvements to the heating and cooling system at Fire Station 1.	2 – IMPORTANT	\$845,000	\$845,000	\$0

PUBLIC SAFETY, HEALTH, & WELFARE CAPITAL IMPROVEMENT PLAN

Community Wellbeing

The City currently has two senior centers (Brennan and Hasselbring), two youth centers (Berston and Haskell), and the McKinley Center (run by VISTA Drop-In Center). All are well utilized, some to the point that they physically cannot accommodate more users without capital investments, an indication of the need for more centers and partners to help with programming. There is an immediate need for improvements at the two senior centers and it is likely that improvements are needed at the others. Finding funding and project partners for necessary projects needs to be a priority.

PROJECT NAME	PRIORITY	TOTAL COST	CITY COST SHARE	NON-CITY FUNDS
<p>Hands Free Faucets</p> <p>Installation of hands-free faucets at Berston, Haskell, McKinley, and Mott Park. Cost represents highest end estimate provided by Terry Allen Plumbing & Heating based on the total number of bathroom faucets (\$750/faucet x 30 total faucets; 11 at Berston, 11 at Haskell, 4 at Mott Park, and 4 at McKinley). Pierce, Hasselbring, and Brennan Centers are not included on this list as hands-free faucets have already been installed at these facilities.</p>	1 – URGENT	\$22,500	\$22,500	\$0
<p>Facility Needs Assessment</p> <p>Undertake a study to identify improvements needed at the various community centers (Berston, Brennan, Haskell, Hasselbring, and McKinley) and identify long term goals for providing services at each center.</p>	1 – URGENT	TBD	TBD	TBD
<p>Soil/Turf Repairs at Haskell Youth Center</p> <p>Soil cap design and construction for the demolished former swimming pool site at Haskell Youth Center.</p>	2 – IMPORTANT	\$13,000	\$13,000	\$0
<p>Pierce Community Center HVAC</p> <p>Replacement of air conditioning units at Pierce Community Center.</p>	3 – DESIRABLE	\$15,000	\$15,000	\$0
<p>Fire Sprinkler System at Berston Field House</p> <p>Fire sprinkler system installation at Berston Field House. Cost estimate by Sedgewick & Ferweda Architects.</p>	3 – DESIRABLE	\$150,000	\$150,000	\$0
<p>LED Lighting Conversion</p> <p>Convert existing lights at city-owned community centers (including Berston, Haskell, Pierce, McKinley, Mott Park, Brennan, and Hasselbring) to high-efficiency LED fixtures to reduce long-term utility costs. Total cost represents a rough estimate based on the cost of conversion for gym lighting at Berston Field House. Cost provided at a rate of approximately \$500/light for equipment and labor. Total number of lights estimated at 420 or 60 per facility.</p>	3- DESIRABLE	\$210,000	\$210,000	\$0
<p>Flint Farmers Market – Visioning Session</p> <p>The recently closed facility located on Boulevard Ave. represents prime options for potential adaptive re-use opportunities. Situated along the Flint River and Flint River trail with close proximity to Downtown, this city-owned asset requires attention for future use. A public visioning session and planning process should be held to determine its immediate future as noted in the Master Plan.</p>	3 – DESIRABLE	TBD	TBD	TBD

Additional Information

Police Department

The facilities of the FPD include Police Headquarters, located on the City Hall Complex site, along with several neighborhood service centers. The headquarters facility has a number of issues associated with it. Constructed at the same time as City Hall (1956), the 62,400 square foot building suffers from many of the same problems and inefficiencies. Many building components are outdated and in need of maintenance or replacement. The building is extremely energy inefficient. The list of necessary capital improvements for FPD facilities is only a portion of what is likely needed, and there are serious questions as to the long-term viability of at least some of the buildings considering their age, condition, and cost of corrections needed. The City should consider including in a study of options for right-sizing their facilities to meet projected staffing needs of the Police Department, especially the headquarters. Opportunities could also exist as part of the implementation of the Master Plan to repurpose FCS facilities into combined police mini-stations/community centers/senior centers.

Fire Department

The Fire Department includes six (6) fire stations (with old Station 5 and Station 7 being closed and station #8 currently “browned out”) which are in various conditions. All have needs to varying degrees for upgrades or other improvements. There is no comprehensive facility assessment known for any of the fire stations and this should be considered. It is very likely that these facilities have many of the same issues as others of the City, with the added concerns of FFD staff being on duty 24 hours, 365 days a year. The assigned station is home to firefighters, who perform their duties, eat, and sleep at the station. This aspect presents unique issues not present in other facilities, such as kitchen remodeling and updates, appliances, etc.

Community Wellbeing

The City currently has two senior centers (Brennan and Hasselbring), two youth centers (Berston and Haskell), and the McKinley Center (run by VISTA Drop-In Center). All are well utilized, with programming at all of the centers provided by various non-profit partners. Some are utilized to the point that they physically cannot accommodate more users without capital investments, an indication of the need for more centers and partners to help with programming. Utilization of senior and community centers can be a key component in implementation of the Master Plan and many of the different place types, which can include adaptive reuse of FCS facilities. There is an immediate need for improvements at the two senior centers and it is likely that improvements are needed at the others. Finding funding and project partners for necessary projects needs to be a priority.



NEXT STEPS

The City of Flint is gathering significant momentum towards transitioning into a more efficient, sustainable City. Implementation of the Master Plan will require significant capital investments, many of which listed throughout this document are necessary for this transition to occur. The projects listed are but a fraction of what is needed for the City, but are required for the City to continue to move forward.

If the City follows the recommendations of the CIP and truly aligns its policies to that of the Master Plan, Flint can achieve a new quality of life that is good for all people and the environment, ultimately providing stabilized quality living environments as opposed to exponential growth.

The next steps required for the growth and development of Flint over the next 20 years include:

- Use of the Master Plan to guide City policies and decision-making;
- Review and update of the Zoning Ordinance, which is currently underway, and other development controls to reflect policies presented in the Master Plan;
- Use of this CIP to plan for recommended infrastructure improvements;
- Promote cooperation and participation among various agencies, organizations, community groups, and individuals;
- Implement a 5-year Strategic Plan to prioritize objectives and list accomplishments of preceding years;
- Explore possible funding sources and implementation techniques for projects;
- Enhance public communication and community engagement in decision-making; and,
- Update the CIP, Strategic Plan, and Master Plan at regular intervals.

ADOPTING AN ANNUAL CIP PROCESS

The CIP is a distinct element of the annual budget process that flows through City government in separate, but linked channels. The CIP process typically occurs earlier than the budget process, as the CIP will be used in developing the capital projects portion of the annual budget. The process for developing the CIP generally involves the following steps.

Step 1: Organize the Process

Since the City has not had a formal process for collaborating on development of a CIP, the first step should be to develop and organize a process for doing so. Staff members whose work duties, responsibilities, and/or expertise are impacted by or affect capital improvement projects should be identified as members of the CIP Team. These meetings should occur on a regular basis throughout the year and not wait until immediately prior to the budget process, as the CIP process will take on less meaning if it is merged in any way with the budget. The CIP draft should be completed well prior to beginning the budget process, with adjustments to the CIP made as needed based on budget discussions.

Step 2: Identify Needs

Each member of the CIP Team identifies the needs within or affected by its particular asset area. Team members should develop their CIP "wish list" of needs for facilities they are responsible for throughout the year and bring this list to the first CIP Team meeting. These needs can be identified by reviewing the findings of the City's various master plans, maintenance records and experiences of staff, and citizen requests submitted since the last CIP process.

Step 3: Identify Key Scope Items

Next, each member of the CIP Team identifies key scope items that are likely to influence the cost and/or schedule requirements of the project to address the needs. These items may include impacts to natural features; changes to the character of an area; locations within established boundaries such as historic districts, DDA, Master Plan place types, etc.; impacts on other utility infrastructure systems or their operations; special assessment or other outside funding component; need to obtain right-of-way or easement area; or, require a public engagement process.

There are tools that can be utilized in this process. One is the utilization of the City's geographic information system (GIS), which should contain an inventory and status or condition of many of the key items listed above. By identifying the location of a particular need, the presence or absence of many key items can be determined. Another tool, though not as technical as the GIS, is the broad perspective of the CIP Team members. By leveraging the expertise of the various staff involved with, or affected by, the operations and improvement of a particular asset area, many critical scope items can be factored into the planning and programming of a project to address a particular need.

If these scope items are not taken into account as part of the CIP process, the implementation of many projects is likely to encounter delays and cost overruns as these items are discovered during the actual project study and design activities.

Step 4: Prioritize Needs

The key task for the CIP Team is to evaluate and prioritize the many identified needs. This is a critical component of the CIP process. Project selection and scheduling is constrained by the amount of funding anticipated to be available for capital projects. Shrinking funds and rising costs incurred in maintaining and rehabilitating deteriorating infrastructure make the process of selecting the most vital capital projects even more crucial and difficult. The merits of each need must be judged against the policies and criteria of the CIP process and the goals of each component of the Master Plan, as well as against the other competing needs.

Collaborative Classification Process

This CIP utilizes the collaborative classification method to prioritize projects. This method considers the varied perspectives on a given project to arrive at a prioritization relative to the other needs within that project category.

Prioritization or Weighting Model

Some communities utilize a detailed, yet clear method of prioritizing projects. The City of Flint should consider use of a prioritization or weighting model, which employs the following procedure:

1. Determine the decision criteria to be used in the prioritization analysis
2. Assign relative weights to the criteria from 0 to 100, with 100 being the most important criteria and the others weighted relative to the most important
3. Determine performance measures from 0 to 10 for each criterion
4. Score each need/project for each criterion

5. Run the model
The results of the prioritization model express the overall, relative benefit of each need/project compared to the others in that particular category. These results are reviewed to confirm that the criteria, weighting, and scoring have not produced improper results. If it is determined by the team that some aspect of the results are inappropriate, the criteria, weighting, and/or scoring should be reviewed and adjusted and the model re-run. The purpose of this iterative process is to better calibrate the model, but care must be taken to not adjust the model to produce "desired" results.

Note that while priorities for projects are included in the project listings, it is incumbent on the City to determine the final priority for projects between departments once department heads have prioritized projects within their own area of responsibility. Regardless of the method employed (prioritization model, collaborative process, or other means), this step is to be conducted without consideration of project cost or availability of funding or staffing resources. The goal of this step is to assign a priority to each project to allow for subsequent steps to be completed.

Step 5: Schedule Projects

During previous steps, CIP Team members identified needs, developed scopes, and prioritized needs based on use of some method for doing so. An item of major importance is the scheduling of projects based on the initial estimate of the project costs, proposed funding source(s) for those costs, and prioritization.

The CIP Team members should develop an initial proposed schedule for the projects based on their understanding of the need and its relative priority within its asset category. Unlike a budget, a CIP is not required to be fiscally constrained based on available dollars, but it should have some semblance of reality to be effective and serve its intended purpose of providing guidance to future budget cycles.

The projects should initially be grouped by the fiscal year in which funding is proposed. The CIP Team should then evaluate each fiscal year grouping and adjust project schedules until an overall schedule of projects is established wherein:

- Higher priority needs are addressed before lower priority needs.
- Available funding limits are not exceeded for the upcoming budget cycle.
- Staffing resources are anticipated to have capacity to perform the projects.

Step 6: Prepare, Adopt & Approve

As the process continues, and increasingly detailed information emerges, projects may be added, altered, or abandoned. Eventually, the CIP Team arrives at a final list of projects that is submitted to the City Planning Commission for review.

The Planning Commission evaluates the CIP package in light of additional information, holds a public hearing, and makes final programming decisions before adopting the CIP and sending it on to City Council. Council approves the CIP after its review. Approval is not a commitment to finance the approved projects, but is a statement of policy regarding the City's approach to meeting its future capital needs. However, the first two years of the CIP do form the initial basis for the Capital Projects Budget portion of the City's Annual Budget.

Policy Assessment

The City Council ultimately approves the assumptions, criteria, policies, and recommendations of the CIP Team and City Planning Commission by approving the CIP. Depending on the policy orientation, modifications are expected throughout the process. This is considered an essential part of the procedure, placing the burden on those who dissent to assess the policies underlying the recommendations and to advocate their differences, resulting in the necessary evolution of the entire capital planning process.

**Highlight Priority Needs
Regardless of Funding**

It is inevitable that the number of projects required to address all of the City's infrastructure needs will exceed the available funding. In the endeavor to provide better service to the community, capital projects are proposed at times which, unfortunately, are moved to a later date when funding is available, or are determined to be unfunded or unprogrammed. This process should not discourage staff from continuing to submit identified needs, but should develop into a mechanism to help in the effort to uncover alternate sources of funding and see that higher-priority projects get implemented.

APPENDIX

The attached Appendix includes the CIP spreadsheet that provides more detailed information about budget cycles, funding sources, and project costs for projects listed in this CIP. Several projects do not have a detailed scope or cost determined and there are numerous additional studies and investigations needed for the City to document existing conditions and fully understand infrastructure and capital improvement needs. Additional discussion on "Moving Forward" can be found in Chapter 12 of the Master Plan.