

Capital Improvement Plan (CIP)



Hazards Addressed



How it Works

A **capital improvement plan (CIP)** is a working blueprint for building and sustaining a community's publicly funded physical infrastructure. The purpose of a CIP is to identify capital improvement projects, identify and forecast funding sources, prioritize improvements based on funding available, and estimate a timeline for completion of individual improvements. The CIP links capital expenditures to other long-range plans, such as the comprehensive plan or hazard mitigation plan, and connects community goals to priorities for public spending.

Capital improvements can significantly impact a community's built and natural environment as they can help guide the trajectory of future growth or change, and can represent a substantial portion of a community's overall public improvements. With the increasing frequency and magnitude of natural hazards, the capital improvement plan provides an important tool that local governments can use to mitigate risk and promote community resilience. CIPs can help facilitate the inclusion of hazard mitigation principles into project identification, prioritization, and design, and to leverage mitigation or recovery funds. CIPs can also help communities to understand how growth has the potential to increase risk, and anticipate and avoid potentially negative outcomes.

This CIP Tool Profile defines capital improvement plans/programs, describes how they might incorporate hazard mitigation principles, and discusses case studies from Colorado and elsewhere in the United States.

What are Capital Improvements?

Capital improvements are major, non-recurring public expenditures. Capital improvements typically refer to physical assets and include the design, purchase, construction, maintenance, or improvement of such public resources as land, buildings, parks, public infrastructure, equipment, and public spaces. Most communities designate a dollar threshold for including projects in the CIP. For example, the City of Aurora's [Capital Improvement Program](#) identifies capital needs for projects of \$25,000 or more.

What is a Capital Improvement Plan (or Program)?

A CIP is a community planning and fiscal management tool used to coordinate the location, timing, and financing of capital improvements. A CIP identifies a community's capital needs over a multi-year period, typically 3-7 years, and lays out a plan for capital expenditures over that time period. Most plans systematically evaluate the availability and use of capital resources according to a prioritization scheme, identify infrastructure improvements that could be funded with resources available, and inform the public about the timetable for the construction or completion of projects. CIPs often include both a comprehensive list of infrastructure needs and a fiscally-constrained plan that is limited by the funding available. CIPs are revised on a regular basis to continually reflect the needs and resources of the community and to incorporate unexpected events or opportunities.

While CIPs vary by community, most include at least two basic sections: the capital program and capital budget. The capital program describes the community's capital needs and priorities over the multi-year planning period. The capital budget is the spending plan for capital improvements in the upcoming budget cycle. CIPs are typically developed as standalone plans, or as a section of a community's annual budget.

While the level of detail in a capital improvement plan will vary according to community needs and capacities, many communities follow a similar outline. The basic steps of preparing and implementing a CIP are:

1. Establish the administrative structure
2. Establish the policy framework for the CIP
3. Formulate evaluation criteria to determine capital spending levels and to guide capital project selection
4. Prepare a capital needs assessment
5. Determine the status of previously approved projects and identify new projects
6. Assess the financial capacity of the municipal unit to undertake new capital projects

7. Evaluate funding options
8. Compile, evaluate, and rank project requests and undertake financial programming
9. Adopt a capital program and capital budget
10. Implement and monitor the capital budget and projects
11. Evaluate the CIP process

The Government Finance Officers Association (GFOA) provides up-to-date and detailed policy guidance and best practices for multi-year capital planning and capital project management.

Integrating Hazard Mitigation into Capital Improvement Plans

The incorporation of hazard mitigation goals and priorities into capital improvement plans is an emerging best practice for achieving community resilience. Capital improvement plans and programs typically include important public improvements such as roadways, fire stations, sewer lines, water supply and storage facilities, wastewater treatment facilities, and other critical infrastructure that are vital to community functioning and warrant careful assessment of hazard risk through the hazard identification and risk assessment process. CIPs are also the primary vehicle through which structural hazard mitigation measures get prioritized and funded. The Federal Emergency Management Agency (FEMA) describes four key benefits to the integration of hazard mitigation into CIPs:

- Leverages funding to implement hazard mitigation measures
- Helps ensure that public expenditures for capital improvements are consistent with hazard mitigation goals, objectives, and policies
- Provides the opportunity to review and consider the impact of proposed improvements on hazard vulnerability, either directly or indirectly, through supporting private investment in land development
- Can help guide new growth to safer areas

At a minimum, FEMA recommends that communities review their CIPs in regards to their connection to hazard mitigation during their regular hazard mitigation plan update. Federal regulations (Title 44 Code of Federal Regulations (CFR) §201.6(c)(4)(ii), Local Mitigation Plans) require that hazard mitigation plans “describe a process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans,” when appropriate. FEMA further suggests that CIPs emphasize projects that mitigate the impact of natural hazards by elevating them to high priority, and consider a more unified approach to plan integration by including a staff member who is knowledgeable about hazard mitigation in the development of CIPs.

- In their Plan Integration Guide, FEMA suggests three questions that local communities can ask about their CIPs and Infrastructure Policies to better incorporate hazard mitigation:
- Does the CIP provide funding for hazard mitigation projects identified in the hazard mitigation plan or include mitigation as a component to a redevelopment, renovation, or development project?
- Does the CIP limit or prohibit expenditures on projects that would encourage new development or additional development in areas vulnerable to natural hazards?
- Does your community have infrastructure policies that limit extension of existing infrastructure, facilities, and/or services that would encourage development in areas vulnerable to natural hazards?

The Government Finance Officers Association provides further guidance, recommending that jurisdictions “prepare a comprehensive inventory of its physical assets, create a system to determine critical assets and respective resiliency, and establish a scoring system that evaluates levels of resiliency.” The scoring system would then be used to prioritize resiliency needs and capabilities

Where It’s Been Done

Fort Collins has historically been at high-risk from flood events, including a 1997 flash flood that killed 5 people and caused over \$200 million in damage. Since then, the City has worked to reduce flood risk through structural and non-structural measures including proactive floodplain management; acquisition of high-risk structures; preserving and protecting riparian areas along Spring Creek, Fossil Creek, and the Cache la Poudre River; and discouraging development in high hazard areas.

Fort Collins defines capital improvements as projects with relatively high monetary value, a long life, and that result in the creation of a fixed asset or revitalization that upgrades or extends the useful life of a fixed asset. Along with major commitments to stormwater management projects, the City’s CIP also prioritizes projects with hazard mitigation relevance like open space acquisition and critical infrastructure enhancements. The CIP prioritization process rates projects on two tiers of criteria, the first including safety mandates and the second linkages to City approved plans. City Plan Fort Collins, adopted in 2011, includes flood risk reduction and management in its vision and key principles. The plan includes numerous principles and policies centered on the protection of the natural floodplain and waterways; the encouragement of development outside of floodplains; and requirement that structures and facilities that are unavoidably located in flood-prone areas be designed to high standards. By linking its capital improvements prioritization criteria directly to its plans that prioritize flood risk reduction, the City is able to use its CIP to accomplish key flood risk-reduction goals.

Baltimore, Maryland is highly vulnerable to a range of natural hazards including coastal storms, flooding, heat-waves, and severe winter storms. Much of the City's infrastructure is at risk from natural hazards and future climate change, and over the past decade, capital improvements have represented 15-30% of the total City budget. Baltimore has used its CIP program to help achieve resiliency goals. For example, the city's utilities actively use scheduled repairs and capital improvement projects as an opportunity to achieve goals described in the City's Disaster Preparedness Plan and Climate Action Plan. The City's Planning Department also evaluates capital requests according to a range of criteria, including whether the project protects the public's health and safety, and how well it implements the City's Sustainability Plan, which includes elements of hazard mitigation and climate adaptation.

The **City of New Orleans**, which was devastated by Hurricanes Katrina and Rita in 2005, has made resiliency a core principal of its recovery and future development. In 2015, on the 10-year anniversary of Katrina, New Orleans published its first resilience strategy, with the vision of being an adaptable, connected, and prepared city. The City's focus on resilience extends to its adopted capital improvement plan (2017-2021), which describes over \$2.4 billion in spending over a 5-year period. Many of those projects have an explicit focus on recovery from Katrina and reducing future flood risk, such as upgrading the citywide stormwater management system, creating a resilience district, and improving parks and open spaces to serve as flood control areas. The plan prioritizes projects that leverage significant disaster mitigation, recovery, and resilience resources from FEMA, HUD, and other federal and state sources.

To help meet its resilience goals, the City of New Orleans has established a Resilience Design Review Committee, which conducts regular reviews of all construction projects funded under resilience programs and/or those related to stormwater management or green infrastructure. The Committee reviews projects according to multiple resilience performance criteria and advises the Chief Resilience Officer at an early enough stage to affect design and planning objectives.

Advantages and Key Talking Points

As a core community planning and fiscal management document for communities, there are numerous advantages to incorporating hazard mitigation into CIPs:

- CIPs can help translate a community vision into practical action and achieve goals of sustainability and resilience.
- CIPs guide a significant portion of a local government's investments in the community and provide a unique opportunity to build mitigation and resilience criteria into community investment practices.
- CIPs link together other long-range plans, like the comprehensive plan and hazard mitigation plan, and the community's capital improvement budget.

- CIPs are developed and updated on a regular basis, which allows for the incorporation of best available data about natural hazards into government decision-making.
- Incorporating hazard mitigation into the CIP can help to lower the costs from natural hazards and make more efficient use of community financial resources by reducing the costs to rebuild or repair infrastructure after future disasters.
- The capital improvement planning process typically involves stakeholders from each department of local government and the public, bringing together a broad base of support for achieving hazard mitigation goals and objectives.

Challenges

The following can be challenges associated with CIPs.

- Developing and updating a CIP can be a time-intensive process, and incorporating hazard planning can add additional complexity.
- Incorporating hazard mitigation into CIPs is an emerging best practice, and so relatively few resources or tools are available to guide local government efforts.
- Many capital plans for publically funded improvements are already restricted by the limited funds available for implementation. The increasingly urgent need for the maintenance and replacement of basic infrastructure often takes precedence over improvements unless directly related to the health and safety of the public.
- In some instances, the up-front costs of projects that incorporate hazard mitigation may increase, even if long-term savings will be achieved.
- The integration of strong hazard mitigation principles into CIPs may be seen as anti-development if it restricts or discourages building in high-hazard areas.

Key Facts

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| Administrative capacity | A public official typically coordinates the preparation of the CIP – whether a planner, chief executive, administrative officer, or budget officer – with support from a lead department and from other agencies like public works, finance, engineering, and/or public safety |
| Mapping | Some technical mapping and GIS analysis may be required for integrating hazard areas into the project prioritization process |
| Regulatory requirements | N/A |
| Maintenance | CIPs cover a multi-year period, typically 3-7 years, and are reviewed and updated on an annual basis |
| Adoption required | Yes, adopted by the legislative body of the community following public review |

Statutory reference The Colorado Revised Statutes provide local governments with financial powers to raise revenue for the purposes of capital improvements, and require that proposed expenditures for capital projects be included in annual budgets.

Associated costs Staff time, plus potential costs for mapping or other technical work, public outreach activities, and consultant services

Examples

City of Baltimore

Capital Improvement Program

<https://planning.baltimorecity.gov/planning-capital-improvement>

Also, you can read their Disaster Preparedness Plan here:

<http://www.baltimoresustainability.org/plans/disaster-preparedness-plan/>

City of Fort Collins

Capital Improvements Program (within the Comprehensive Plan)

<https://www.fcgov.com/planfortcollins/pdf/cityplan.pdf?1415894776>

City of New Orleans, LA

Capital Improvement

<https://www.nola.gov/city-planning/capital-improvement-plan/>

Also see the Plan-Resilience Strategy: <http://resilientnola.org/>

Resilience Design Review Strategy Committee:

<https://www.nola.gov/resilience/designreview/>

Urban Water Plan: <https://livingwithwater.com/>

For More Information

American Planning Association. Hazard Mitigation: Best Practices Into Planning.

<https://www.planning.org/publications/report/9026884/>

American Planning Association. Building Coastal Resilience Through Capital Improvements Planning. Berke, Phil, Gavin Smith, and Ward Lyles (2016).

<http://mitigationguide.org/>

Center for Land Use Education. Planning Implementation Tools: Capital Improvement Plan.

https://www.uwsp.edu/cnr-ap/clue/Documents/PlanImplementation/Capital_Improvement_Plan.pdf

FEMA. Integrating Hazard Mitigation into Local Planning

https://www.fema.gov/media-library-data/20130726-1908-25045-0016/integrating_hazmit.pdf

FEMA. Plan Integration: Linking Local Planning Efforts

https://www.fema.gov/media-library-data/1440522008134-ddb097cc285bf741986b48fdcef31c6e/R3_Plan_Integration_0812_508.pdf

FEMA. Francis, Charlie. Capital Improvement Plans 101

<https://opengov.com/article/capital-improvement-plans-101>

Government Finance Officers Association. The Role of Master Plans in Capital Improvement Planning

<https://www.gfoa.org/master-plans-and-capital-improvement-planning>

Government Finance Officers Association. Best Practice Recommendations for Disaster Preparedness

<https://www.gfoa.org/disaster-preparedness>