**Christchurch** **Central Rebuild**

Southern Institute of Technology

ITC 601 Project Management

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# **Introduction**

# Problem Definition

On the 4th of September 2010, at 4:35am, an earthquake with a magnitude of 7.1 happened around 40 kilometers west of Christchurch, New Zealand, and 11 kilometers beneath the ground. There was no loss of life, but the tremor caused widespread damage to buildings and roads throughout the city, disrupting water, power, and sewerage services.

On the 22nd of February of the following year, around 12:51pm, there was another seismic event, this one with a magnitude of 6.3. With its epicenter at only 10 kilometers southeast of Christchurch and 5 kilometers beneath the ground, this earthquake caused much more damage, killing 185 people and leaving the central city in ruins. Later that year, Christchurch would be hit by other earthquakes of around 6 in magnitude, in the months of June and December, further increasing the damage.

# The Project

As a response to the damages caused by the February 2011 earthquake, the government of New Zealand established, in March of the same year, the Canterbury Earthquake Recovery Authority (CERA) to centralize and organize the government’s efforts to lead the city of Christchurch and the surrounding areas impacted by the earthquakes into recovery. “On 30 July 2012 the Christchurch Central Development Unit of CERA issued a Blueprint Plan” (John Wilson, 2015) for the rebuilding of the central area of the city called Christchurch Central Recovery Plan, which was based on another plan created by the Christchurch City Council but rejected by the Minister for Canterbury Earthquake Recovery. The Christchurch Central Recovery Plan was complemented by other projects like the Land Use Recovery Plan, which was a plan to rebuild and recover the Greater Christchurch area, including the surrounding cities, and excepting for the area covered by the Christchurch Central Recovery Plan.

Objectives

The Christchurch Central Recovery Plan was conceived as a plan to take the need to rebuild the Christchurch City Centre as an opportunity to completely remodel the area, rebuilding and modernizing its infrastructure, embracing the community’s needs, and making it safer to withstand future earthquakes, thus providing a bedrock for the local community and economy resettlement. Its main goals were to achieve cultural, social, and economic recovery of the city, as well as to recover its built and natural environments.

Importance

The event on the 22nd of February of 2011 was New Zealand’s worst natural disaster in 80 years, with the government declaring the situation a state of national emergency and all the world following the news. Many of the survivors lost family members, friends, their home, jobs and saw one of the biggest cities in the country being demolished. In addition to that, the sequence of earthquakes also created a sense of insecurity in the citizens of Christchurch, pushing many to move away from the city and weakening the local community and economy even more. This is not only a city reconstruction project, but also a community re-establishment project that aims to bring the sense of safety, resilience and feeling at home back to its people.

Stakeholders

As a complex and wide project, the Christchurch Central rebuild involved many stakeholders, each contributing to distinct roles and with their own perspectives. But in addition to the stakeholders naturally required to this type of project, the drama caused by the earthquakes also captured the regard of other people, leading many to volunteer to assist the project in some way.

* **National Government of New Zealand**

The National Government of New Zealand established CERA to lead and coordinate the government’s response and efforts to help Christchurch and surrounding areas recover from the damages caused by the earthquakes. The government was also vital to help finance the project.

* **Canterbury Earthquake Recovery Authority**

CERA, like mentioned above, was technically part of the National Government of New Zealand. However, it is important to mention it separately because it was, in many ways, the main stakeholder, having a central role in the planning stage and acting as project lead in many of the anchor projects.

* **Christchurch City Council**

The role of local government, represented by the Christchurch City Council, encompassed urban planning, infrastructure restoration, and community engagement. Together with CERA, it wielded authority in resource allocation, regulatory compliance, and strategic decision-making, ensuring a coordinated and efficient reconstruction process.

* **Te Rūnanga o Ngāi Tahu**

Together with CERA and the Christchurch City Council, Te Rūnanga o Ngāi Tahu was one of the organizations involved in running the project.

* **Residents and Community**

Apart from being the main interested part in the final product, the Christchurch community also played an active role in the project, being consulted to share their ideas and concerns, thereby shaping the outcome of the project to reflect the priorities of the residents.

* **Business Community**

Local businesses and companies situated in Christchurch also held interest in the success of the project and played a vital role in the revival of the local economy.

* **Non-Governmental Organizations**

Volunteers, donators, and non-profit organizations such as the New Zealand Red Cross helped gathering funds and assisting victims.

* **Construction Companies and Construction Workers**

Construction companies and workers were responsible for carrying out the demolition of irreparably damaged physical structures and the repair of roads and buildings as well as the construction of new ones.

Scope and Boundaries

The Christchurch Central Recovery Plan “identifies several ‘anchor’ projects that will contribute to recovery. These will be progressed by the relevant organisations including CERA and other government agencies, Christchurch City Council, and Te Rūnanga o Ngāi Tahu, with involvement from the private and philanthropic sectors” (Canterbury Earthquake Recovery Authority, 2012). This plan encompassed the rebuilt of Christchurch Centre only, while the recovery of the rest of the city and surrounding areas affected by the earthquakes was covered by other projects.

# **Project Deliverables**

The major deliverables of the project are the anchor projects:

* The Frame
* Earthquake Memorial
* Te Puna Ahurea Cultural Centre
* Convention Centre Precinct
* Stadium
* Metro Sports Facility
* Bus Interchange
* Avon River Precinct
* The Square
* Performing Arts Precinct
* Justice and Emergency Services Precinct
* Health Precinct
* Cricket Oval
* Residential Demonstration
* Central Library
* Innovation Precinct
* Retail Precinct

Each one of these is a wide and complex project on its own, and therefore requires a more detailed breakdown.

The Frame

The Frame was designed to be a set of parks and urban structures that would surround the city central area, demarking its borders. The project was divided into South Frame, North Frame, East Frame and two Urban Gateways. These areas were supposed to redefine the city's urban fabric, enrich its cultural landscape, and create enjoyable spaces for citizens and visitors.

* **East Frame:**
  + City-wide family playground
  + Retains the form of historic Latimer Square
  + Street links through from city to east
  + Paths for walking and cycling
  + Link to the stadium
* **South Frame:**
  + Buildings in accessible, open space landscape
  + Education, health, commercial and innovation activity centres
  + Lengthwise open space corridor for walking and cycling
  + Street and pedestrian links running from north to south
* **North Frame:**
  + Extension of the river
  + Connections and links to Tautahi Rua Kōiwi
  + Historical pathways that once followed the lost river tributaries can become new links
* **Urban Gateways:**
  + Enhanced concepts of welcome a place of belonging
  + Victoria Square reinstated as the Place of Welcome within the revitalization of the Avon River Precinct
  + Historical pathways

Earthquake Memorial

The Earthquake Memorial was designed to be “a place where people can spend time in reflection and honor those who lost their lives or were injured in the earthquakes”, while celebrating Christchurch's resilience and unity. The project envisioned to involve the community and the families of those who died, and incorporate cultural significance, educational components, and spaces for gatherings and ceremonies.

* Develop a memorial space for reflection and remembrance
* Include aesthetic and emotional elements in the memorial design
* Incorporate cultural and symbolic elements honoring diversity and resilience
* Potentially incorporate educational components providing context on seismic events
* Use the memorial as a focal point for community gatherings and events
* Contribute to individual and community healing and closure

Te Puna Ahurea Cultural Centre

The Te Puna Ahurea Cultural Centre was designed to showcase and celebrate cultural diversity and artistic expression, providing a dynamic and inclusive space for cultural festivals, exhibitions, performances, and educational activities that showcase the city's rich traditions. The center should support local and international artists and promote dialogue between different cultural communities.

* Create a dynamic cultural hub
* Celebrate cultural diversity and heritage
* Support cultural festivals, exhibitions, and performances
* Provide spaces for artistic expression and community engagement
* Promote cross-cultural understanding
* Provide dynamic and interactive education experience
* Preserve and showcase cultural heritage elements
* Fostering an inclusive and harmonious community

Avon River Precinct

This project seeks to revitalize the area around the Avon River, implementing bridges and pedestrian and cyclist pathways along the riverbank to provide connectivity between the areas crossed by the river, while enhancing and protecting the river's ecological habitat. It aims to create a culturally significant and community friendly space that respects the historical value of the river for the natives, blending cultural heritage, environmental sustainability, and urban design.

* Incorporate cultural markers along the river area
* Pedestrian and cyclist pathways, providing a safe and inviting route for residents and visitors
* Bridge renovation
* Increase the water quality
* Implement sustainable stormwater management practices
* Physical improvements to the river's habitat
* Landscaping mixing nature and modern architecture

The Square

The Square project aimed to revitalize and reimagine the Cathedral Square, a historic space that has long served as the heart of Christchurch. The idea was to preserve its historical significance and cultural identity, while at the same time blending it with contemporary elements to create a vibrant place to accommodate entertainment facilities and attract the community.

* Restore architectural landmarks, like the Christchurch Cathedral
* Preserve the historical significance and cultural identity of Cathedral Square
* Implement event spaces, welcoming plazas, and communal areas
* Implement contemporary elements while preserving historical reverence
* Establish the Cathedral Square as a cultural hub for gatherings, festivals, and celebrations, and as a symbol of resilience and Christchurch’s recovery and progress
* Incorporate seating areas, public art, and green spaces

Retail Precinct

The anchor projects were conveniently positioned in a way to encourage people walking between them, facilitating development opportunities in the area, where the Retail Precinct aimed to place stores, entertainment and food businesses. The project encompasses architectural renewal and the development of public spaces to foster community engagement, emphasizing its role in boosting economic recovery and enhancing the city's appeal.

* Revitalize commercial and retail core
* Revitalize architectural applying modern design principles
* Public spaces and plazas for community engagement
* Encouragement of businesses to return to the city center
* Establish it as a vibrant destination for shopping, dining, and leisure
* Creation of covered markets and low-cost business spaces
* Development of an international quarter to shape cultural identity
* Economic recovery and boosting of local businesses

Convention Centre Precinct

The Convention Centre Precinct project was designed to rejuvenate Christchurch's event hosting capabilities and economic vitality, featuring a world-class convention center, nearby accommodations, and hospitality services. The design was focused on accessibility and sustainability and aimed to boost the city’s economy and global profile, and to encourage community engagement through diverse events.

* Establish a state-of-the-art convention center
* Provide accommodation and hospitality services
* Stimulate economy and create jobs
* Enhance Christchurch’s branding and global profile
* Engage community through events
* Apply sustainable design principles

The Stadium

The Stadium project represents a significant investment in sports and entertainment infrastructure, designed to host a wide range of events, including sports competitions, concerts, and cultural festivals. The stadium was designed to have a seating capacity of 35000 people and offer corporate suites and lounge spaces, positioning Christchurch as a world-class destination for hosting events.

* 35000 seats
* 4300 demountable seats
* Corporate suites and lounge spaces
* Space to host sports competitions, concerts, and cultural events

Metro Sports Facility

This project designed a facility to accommodate a wide range of sports activities, catering to people of all ages and skill levels, and creating a welcoming and enjoyable environment for spectators.

* Aquatic center
* Indoor stadium
* High-Performance Center
* Recreational facilities

Bus Interchange

The Bus Interchange project aimed to create an efficient public transport system in the Core area of the city.

* Centralized bus interchange
* Pedestrian entrance
* Bus platform
* Amenities
* Cycle storage

Performing Arts Precinct

This project envisions a hub for music and performing arts, supporting the economy, and attracting visitors.

* Restaurant
* Main auditorium
* Foyer
* Auditorium
* CSO and Music Centre and Court Theatre
* Isaac Theatre Royal.

Justice and Emergency Services Precinct

This project was designed to serve as a hub for government, emergency services, and Civil Defence in Christchurch, bringing a substantial workforce into the central city and supporting local retail and commercial activity.

* NZ Fire Service
* St John Ambulance
* Civil Defense and Emergency Management Group
* CCC Civil Defense
* Courtyard
* Arrival forecourt
* Justice
* Police

Health Precinct

This project strategically brought together private research partners, educational institutions, medi-hotels for patient and family accommodation, and a strong focus on clinical education, training, and research. Was located at the western end of the south Frame and connected to other key city facilities.

* Allied health
* Medi-Hotel
* Knowledge campus
* Research campus
* Private/Public health

Cricket Oval

The project previewed the enhancement of the Hagley Park in central Christchurch to serve as a versatile venue for domestic and international cricket matches. The project aims to maintain the essential village green ambiance of Hagley Park and ensure public access during non-event days. The rejuvenation of the Cricket Oval is anticipated to invigorate the area, generating demand for accommodation and services during international events.

* Grass embankments
* Spectator capacity of 15,000 people, expandable to 20,000 with temporary seating
* Training and coaching facilities
* Sports lighting to international broadcast standards
* Pavilion with lounge and media facilities

Innovation Precinct

The Innovation Precinct project aimed to foster collaboration between innovative businesses and research organizations, driving productivity and growth for Christchurch and New Zealand. Located adjacent to the South Frame on the High Street Gateway, this precinct is designed to create a technology-based industry and research hub in the central city.

* Research precinct
* Attraction of new businesses and employment opportunities
* Collaboration with Christchurch Polytechnic Institute of Technology
* Collaboration with crown research institutes

Central Library

The Central Library project envisioned a library in the heart of Christchurch to offer access to diverse library collections and digital resources, serving as a vital part of the city. Beyond books, it would celebrate cultural diversity, engage the community, and provide spaces for learning, heritage exploration, exhibitions, performances, and relaxation.

* Significant collections
* Digital technologies
* Local heritage collections
* Exhibition and performances spaces
* Learning center
* Indoor and outdoor relaxation areas
* Modern and comprehensive resource for the community

Residential Demonstration

Emphasizing affordability and catering to a wide range of resident needs, this initiative aimed to create an appealing inner-city living environment. Concentrated development in strategic areas, improved open spaces, and connectivity to essential amenities will contribute to the project's success.

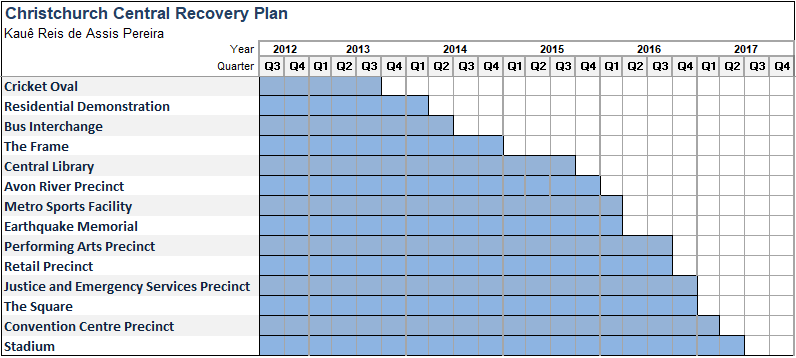
* Diverse housing options
* Affordable housing
* High-quality inner-city living environment
* Concentrated development
* Improved open spaces
* Enhanced connectivity to amenities

Work Breakdown Structure

1. Christchurch Central Recovery Plan
   1. Assessment and Analysis
      1. Damage Assessment
      2. Needs Analysis
   2. Vision and Strategy Development
      1. Stakeholders Engagement
         1. Community Engagement
            1. Public Consultation
            2. Information Dissemination
            3. Community Feedback Collection
      2. Vision Development
      3. Strategic Planning
   3. Planning and Design
      1. Feasibility Study
      2. Architectural Design
      3. Engineering Design
      4. Environmental Impact Assessment
      5. Regulatory Approvals
   4. Site Preparation
      1. Land Clearing and Demolition
      2. Utilities and Infrastructure Assessment
      3. Soil Testing and Remediation
   5. Project Management
      1. Project Planning and Scheduling
      2. Resource Allocation
      3. Budget Management
      4. Stakeholder Communication
      5. Risk Management
   6. Anchor Projects
      1. The Frame
         1. Residential or commercial development
         2. Historical pathways
         3. Street and pedestrian links
         4. **East Frame:**
            1. City-wide family playground
            2. Form of historic Latimer Square
            3. Paths for walking and cycling
            4. Link to the stadium
         5. **South Frame:**
            1. Buildings in accessible, open space landscape
            2. Education, health, commercial and innovation activity centres
            3. Site of the proposed Health Precinct
            4. Lengthwise open space corridor
         6. **North Frame:**
            1. Extension of the river
            2. Links to Tautahi Rua Kōiwi
         7. **Urban Gateways:**
            1. Victoria Square
            2. High Street
      2. Earthquake Memorial
         1. Community Engagement
            1. Public Consultation
            2. Consultation with families of victims
         2. Memorial Design
         3. Site Development
            1. Landscaping and Gardens
            2. Pathways and Accessibility
            3. Aesthetic and emotional elements
            4. Cultural and symbolic elements
            5. Educational components
      3. Te Puna Ahurea Cultural Centre
         1. Cultural Center Building
            1. Architectural Design and Development
            2. Structural Construction
            3. Interior Design and Furnishing
         2. Cultural Exhibits and Artifacts
            1. Exhibit Curation and Display Design
            2. Artifacts Acquisition and Installation
         3. Landscaping and Outdoor Spaces
            1. Garden Design and Landscaping
            2. Outdoor Art Installations
      4. Convention Centre Precinct
         1. Convention Centre
         2. Accommodation
         3. Hospitality facilities
      5. Stadium
         1. Service access
         2. Field of play
         3. Stairs
         4. Plaza
         5. Amenities
         6. 35000 seats
            1. Demountable seats
            2. Fixed seats
         7. Corporate suites and lounge spaces
         8. Concourse
         9. Transparent roof
      6. Metro Sports Facility
         1. Aquatic Centre
            1. Competition pool
            2. Dive pool
            3. Leisure pool
         2. Indoor Stadium
            1. 8 indoor courts
            2. 2800 seats
         3. High performance centre
         4. Performance movement centre
         5. Administration facilities and parking
      7. Bus Interchange
         1. Concourse
         2. Pedestrian entrance
         3. Bus platform
         4. Amenities
      8. Avon River Precinct
         1. Pedestrian and cyclist pathways
         2. Cultural markers
            1. Artwork
            2. Sculptures
            3. Indigenous plantings
            4. Bilingual signs
         3. Bridge renovation
         4. Victoria Square revitalization
         5. New islands
         6. Increased water quality
      9. The Square
         1. Cathedral Square
            1. Event spaces
            2. Plazas
            3. Communal areas
            4. Contemporary elements
      10. Performing Arts Precinct
          1. Restaurant
          2. Main Auditorium
          3. Foyer
          4. Auditorium
          5. CSO and Music Centre and Court Theatre
          6. Isaac Theatre Royal
      11. Justice and Emergency Services Precinct
          1. NZ Fire Service
          2. St John Ambulance
          3. Civil Defence and Emergency
          4. Management Group
          5. CCC Civil Defence
          6. Courtyard
          7. Arrival Forecourt
          8. Justice
          9. Police
      12. Health Precinct
          1. Existing Hospital
          2. Hospital Extension
          3. Medi-Hotel
          4. Private/Public Health
          5. Outpatients
          6. Knowledge Campus
      13. Cricket Oval
          1. Cricket Venue
          2. Training and coaching facilities
          3. Sports lighting
          4. Lounge and media facilities
      14. Residential Demonstration
          1. Housing units
          2. Community facilities
          3. Green spaces and landscaping
      15. Central Library
          1. Library building
             1. Furnishing and shelving
             2. Technology infrastructure
             3. Outdoor spaces and landscaping
      16. Innovation Precinct
          1. Research precinct
          2. Remaining heritage features of the area
      17. Retail Precinct
          1. International quarter
          2. Retail buildings
          3. Common areas and Courtyards

# **Project Schedule**

The following Gantt chart illustrates the estimative of execution duration and delivery date of the main deliverables. Bear in mind that the Innovation Precinct, Health Precinct and Te Puna Ahurea Cultural Centre anchor projects were not included in the Gantt chart due to no official information regarding their respective timelines estimative being provided.



According to CERA (2012), milestones for the recovery of Greater Christchurch (which includes not only the Christchurch Central Recovery Plan, but also other initiatives like the Land Use Recovery Plan) were divided into three categories:

1. Repair, patch, and plan (Immediate)
2. Begin to rebuild, replace, and reconstruct (Short term)
3. Construct, restore, and improve (Medium to long term)

Also according to CERA (2012), the Christchurch Central Recovery Plan falls into the second category, with some of its key milestones being:

* Start of the rebuilding in the CBD.
* Completion of land zone decisions and geotechnical issues.
* Continued infrastructure repair and planning about long term repair and provision of infrastructure.
* Demolition of larger commercial buildings.
* Establishment of new residential subdivisions.
* Establishment of new facilities for community sports, cultural and recreational activities.
* Construction of temporary buildings for entertainment and retail.

CERA (2012) did not provide specific dates for each Christchurch Central Recovery Plan milestones, but it estimated that all of them should be concluded between 2012 and 2014.

# **Resource Management**

Gathering numbers regarding resources involved in the execution of the Christchurch Central Recovery Plan is impractical due to its magnitude and complexity. Being a project for complete reconstruction of the center of one the largest cities in the country, it involved many big projects, substantial financial investments, a vast workforce, and an extensive array of equipment and materials. Additionally, the involvement of numerous stakeholders, including several private companies, make it impractical to provide precise quantities and costs for the resources. However, it’s possible to list some information about CERA, which was the main responsible for the plan and stakeholder ahead of more anchor projects. CERA’s had 357 staff at its peak, and 170 when it was disestablished. According to The Controller and Auditor-General (2017), CERA invested high in supporting staff, as many of them had been affected by the earthquakes themselves and were working in a high-pressured environment.

A budget for the Christchurch Central Recovery Plan was not provided, but it’s known that the estimated cost for the recovery of Greater Christchurch was “estimated to cost $40 billion” (Canterbury Earthquake Recovery Authority, 2014). But it’s possible to have a better idea of the Christchurch Central Recovery Plan cost looking the cost of some of the anchor projects, like the Convention Centre Precinct ($475 million), The Stadium ($470 million), The Frame ($250 million), Avon River Precinct ($120 million), Central Library ($100 million), Bus Interchange ($53 million), and the Earthquake Memorial ($11 million).

# **Risk Management**

A project of such complexity is exposed to several risks:

* Natural disasters

The area is slightly vulnerable to flooding, due to its proximity to water bodies. The likelihood of further earthquakes is moderate, due to the region’s seismic activity, and the impact could be very high, possibly bringing the project back to ground zero. Robust structures and early warning systems would be good prevention and response to mitigate the effect of natural disasters.

* Economic risks

The project's massive scope and requirements could lead to budget overruns. Economic recessions or market fluctuations could impact financing. The likelihood was moderate, and the potential impact was high, but applying good practices of project management and establishing financial reserves could have mitigated the risks. However, budget overruns did occur in most of the anchor projects, and led to other problems that will be mentioned further.

* Lack of resources

With a massive number of resources required, any scarcity of skilled labor, equipment, construction materials, or even inefficient allocation of resources could lead to delays and budget overruns. Although unlike to happen, could have a moderate impact on the project. A possible response could be to mobilize resources from unaffected areas.

* Political and regulatory risks

Election of new politicians could lead to change in priorities and funding. Change in regulations could force change of plans mid execution phase. Delay in obtaining permissions could stall project progress. Likelihood and possible impact were moderate. A possible prevention would be to increase the community support for the project through marketing campaigns. One political that did happen was the disagreement between politicians about handling projects that overran its budget. One example was The Stadium project, that in addition to being delayed, needed more investment than was initially expected, and there was no agreement on whether it should be abandoned or paid for. Eventually, the politicians decided to increase the budget.

* Disagreement

Disagreement between stakeholders or opposition from the community could lead to legal disputes and delays. That’s another moderate likelihood and impact risk that increasing community support through marketing campaigns could mitigate.

# **Feasibility Analysis**

Technical Feasibility

The Christchurch Central Recovery Plan technical requirements and constraints are the following:

* Requirements:
  + Skilled engineering and architectural expertise.
  + Reliable supply of quality construction materials.
  + Technologically advanced equipment.
  + Infrastructure rehabilitation expertise.
  + Geotechnical assessments.
  + Safety protocols.
  + Urban planning and sustainable layouts.
* Constraints:
  + Structures designed around seismic vulnerability.
  + Resource availability.
  + Budget limitations.
  + Regulatory limitations.
  + Timelines.
  + Environmental stewardship.
  + Limited demand of local market to reinvest.

Generally, the requirements are feasible considering the budget and significance of the project:

* Ensuring both skilled engineering and architectural expertise, and infrastructure rehabilitation expertise should be very feasible due to the significance of the project, although the high number of workers could be a challenge due to demand.
* The supply of quality construction materials should be moderately feasible, despite the large quantity required.
* Ensuring technologically advanced equipment should be very feasible due to the budget and significance of the project.
* Implementing strict safety protocols and conducting comprehensive geotechnical assessments and urban planning should be highly feasible, given its importance and thus priority.

Economic Feasibility

The Christchurch Central Recovery Plan involves substantial costs, primarily driven by the extensive construction and reconstruction required to revitalize the city's core. This encompasses expenses related to materials, labor, and equipment, estimated to reach billions of dollars based on the individual anchor projects. The project's potential benefits trespass the economic field, as it aimed to restore the city’s cultural heritage and connection to its past. But it also estimated significant long-term economic returns by attracting people back to the city and strengthening the local market through the anchor projects. The project was necessary, and although requiring a very large investment, it was a national priority and was widely supported, what ensured financial support and viability. However, now that more than ten years have passed since the planning phase, we know that most of the anchor projects have overrun their original budget. For example, The Cricket Oval was initially estimated to cost $1.5 million, but ended up costing around $4.5 million. That illustrates how economically inefficient the project execution was, but it does not mean the project wasn’t feasible or should have been dropped, after all, not feasible would be keeping one of the largest cities in the country in ruins. But overall, CERA “was not able to provide a good account of its effectiveness or demonstrate its value for money” (Controller and Auditor-General, 2017).

Operational Feasibility

Due to the earthquakes’ destruction, it was natural that most of the activities would be initially unavailable, but temporary structures were built to accommodate entertainment and retail activities. Safety would always be a concern, especially when damaged structures had still not been recovered or demolished, because even applying every safety measures accordingly, the city was always vulnerable to new earthquakes that could cause even more destruction. Respecting timelines was feasible, but it wasn’t achieved, as none of the anchor projects was concluded within the estimated time. Communication and collaboration were other feasible aspects that presented flaws. According to The Controller and Auditor-General (2017), “both Cera and the Christchurch City Council were not as open or transparent with one another as is required for an effective recovery”, and “CERA’s external performance measures were focused on what it was going to do, rather than on what it was trying to achieve”.

# **Conclusion**

The Christchurch Central Recovery Plan was not optional. While most projects of that magnitude are planned for years, it was as an emergency project to recover one of the biggest cities in the country from a disaster prevented the city to operate properly and the community to endure. Therefore, it was not expected to be as efficient as a regular project would. And the planning, although done in a short time, was praised by the community. However, the project execution had many unnecessary flaws that kept the project further from reaching its goals. Constantly running over budget was one of them, but the main problem was the incapacity of delivering the anchor projects within the timeline. According to The Controller and Auditor-General (2017), “There were delays in nearly all of the Cera-led anchor projects”. The Metro Sport Facility for example, “was initially set to be completed in late 2021 and cost $301 million but is now not expected to be finished until spring 2024 and to open in early 2025, at a cost of at least $317m” (Charlie Gates, 2023). According to The Controller and Auditor-General (2017), CERA succeeded in the project planning, early demolition of damaged buildings and gathering stakeholders, but “having a better performance framework is an important lesson for the future”.

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