Parks & Public Landscaping Advisory Board

Agenda

April 3, 2024
Library Meeting Room
951 Spruce Street
6:30 PM

Members of the public are welcome to attend and give comments remotely; however, the in-person meeting may continue even if technology issues prevent remote participation.

- *You can call in to +1 408 638 0968 or 833 548 0282 (Toll Free), Webinar ID # 885 1622 9475*
- *You can log in via your computer. Please visit the City's website here to link to the meeting: www.louisvilleco.gov/pplab*

The Board will accommodate public comments during the meeting. Anyone may also email comments to the Board prior to the meeting at AMcneal@LouisvilleCO.gov.

I. Call to Order
II. Roll Call
III. Approval of Agenda
IV. Approval of Minutes
V. Public Comments on Items Not on the Agenda
VI. City Council Work Plan – connections with PPLAB
VII. Outdoor Amenities – sub-group updates
VIII. Median Project Discussion
IX. 2024 Work Plan - items

X. Board Reports

- Article link for discussion https://www.cambridge.org/core/journals/japanese-journal-of-political-science/article/how-social-infrastructure-saves-lives-a-quantitative-analysis-of-japans-311-disasters/4BD3AA196B334A23F0B749E85AE4E38F?utm_source=pocket_reader
- McCaslin entryway signage collaboration

XI. Staff Updates

- See report

XII. Discussion Items for Next Meeting

XIII. Adjourn

Parks & Public Landscaping Advisory Board

Agenda

March 6, 2024
Library Meeting Room
951 Spruce Street
6:30 PM

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I. Call to Order 6:30 pm

II. Roll Call

Present
Cynthia Corne, Chair
Ellen Toon, Vice-Chair
Shannon Mihaly, Co-Secretary (remote)
Patricia Rogers, Co-Secretary
Jody Ash
Signe Buck, (remote)
John Webb (remote)
Abby McNeal, Parks Superintendent
Ginger Cross, Clty of Louisville Communications
Bryon Weber, PROST Project Manager

Members of the Public in Attendance
Carter Marshall, Design Concepts Presenter
Malaki Payne, Monarch High School student
Levi Carlacci, Monarch High School student
Jaysson Pittman, Monarch High School student
Kylee Hartmann, Monarch High School student
Abby Prescot, Monarch High School student
Sidney Miller, Monarch High School student
Will Scherer, Sunflower Park neighbor
Steve Merschel, Sunflower Park neighbor
Monte Henderson, Enclave Resident
Deb Fahey, Enclave Resident

III. Approval of Agenda
Ellen moved to approve the agenda, Patricia seconded, approved unanimously.

IV. Approval of Minutes
Ellen moved to approve the minutes, Signe seconded, approved unanimously.

V. Public Comments on Items Not on the Agenda
None

VI. PPLAB- Bylaws- purpose statement
Board members read the 7 duties of the PPLAB bylaws aloud to the group in attendance. These were last revised in 2015 and should be updated in 2024, per the City Clerk.
https://www.louisvilleco.gov/home/showpublisheddocument/21989/636815138222170000

VII. Staff Updates
• Parks Division Organizational Overview-

Abby presented the current Org Chart which was included in the March PPLAB packet. Arborist can add seasonal help, new horticulturist on staff. There *are* April-October seasonal positions, including weekend work in the April - October time frame.

Abby discussed some of the activities that Parks division maintains which align with other advisory boards such as the Recreation Advisory Board and Open Space Advisory Board. Some examples are:

- Structures and grounds which have oversight by the Recreation Advisory Board.
- Hardscape trail City Parks Ops (e.g. snow operations)
- Crushed trail is City OS Ops maintenance
- An example: If a cross trail were added to powerline trail, any connections to this would be OSAB weigh in and PPLAB review of
- OSAB advises re: trails (city-wide) and wayfinding

• Parks Division Report - Overview

Included in packet - Work at Arboretum, new posts for tree signs, in-house renovations are currently in progress at the Arboretum

• Finance Committee Establishing Parks and Open Space Funds-Review

Council reviewed the presentation that Director Bailey presented to PPLAB in Feb 2024 and that was approved. OSAB got two additional technician roles. The 2025 budget process will go to Council twice this year
Board member requested that a Finance update in April 2024 or in advance of next Council review.

The 2 C tax which was passed is a 50/50 tax with a .125% addition for open space acquisition. Parks budget is 60-70% from that tax, remainder comes from the General Fund. The second version of 2024 budget was approved by Council on 3/5/24.
Staff is ready to get started for spring planting and maintenance.

VIII. Enclave and Sunflower Parks Playground / Renovations Review - presentation by Design Concepts
Introduced by Bryon Weber, Enclave and Sunflower were both Marshall Fire impacted parks. Community planning/ public input meeting in January, to get community input. This is a unique “Opportunity to Create Places out of Spaces.” At this meeting they plan to show PPLAB site concepts, discuss public preference. Staff prepared an online survey, dedicated to Sunflower and Enclave parks. 120 responses in late 2023. Through a process of evolution of public feedback, (which has been through a few iterations) they have a draft design which reflects the community vision.

Sunflower Park

Sunflower Park has street frontage on three sides, existing tree cover and some slopes, presents some opportunities and some challenges. 3 improvements which residents voted as the most desirable

1. Landscape and horticultural enhancements
2. Improve grass for recreation
3. Add a play feature

Following themes for future design:

1. Sunflowers
2. Mountain views

84% of park users live within 2 blocks (data point from pie chart)

Site features which residents voted on:
#1 adventure features - playable landscape, earthwork, shrubs and trees (29)
#2 sled hill (28)
#3 open tur (23)
#4 gathering plaza
#5 wayside seating (21)
#6 public art (15)

Public Comments:

- Will Scherer, of Sunflower Summit asked if the plan is to replace hardscape surface or leave what is there?

Three trees which may be salvageable from the fire:

- 2 ash trees
- 1 maple tree

Are they still in the plan? Can we continue to monitor these?
Also asked another question about the Design Plan, what is the distinction between light and dark trees?
Carter Marshall responded that darker trees are depicted to be newer / younger trees, lighter trees are to represent older trees

- Steve Mershel of Sunflower Summit asked how the Design Firm is planning to incorporate Sunflowers, metal structures similar to sunflowers on Marshall Rd in Superior, near Costco.

Carter responded that their current plan to use sunflower imagery in some of the hardscaping, sandblasted imagery of sunflowers, Any possible Public Art piece is outside the Design firm's purview. That is a separate public art process (Bryon Weber will be managing) which goes through the Culture Director. Public input opportunities through the Arts and Culture advisory board.

Discussion among the group that Board recommends as many trees in this park as possible, given that so many rebuilt surrounding homes will not have mature trees for several years. Abby and her forestry team will check on the viability of the current trees.

Board member comments/notes:

- at the January open house an electrical box was depicted as an obstruction to the use of sled hill, is that still in a position to obstruct? Carter Marshall answered that the transformer box is no longer in the way, and has been relocated to the east side between trees where stone steps are indicated on illustration.
- Is all of the material under sled hill grass? Currently bluegrass? Answer: In good repair, some damage,
- There was some discussion among the board that the turf condition is very weedy, this was mentioned at community meeting in January

Public comment: Will Scherer, a neighbor of Sunflower Park, commented that there is some hazardous material from the Marshall Fire, on the hillside, which needs to be cleared out,

- PPLAB member: “We should not have junipers around the base of the community tree depicted in the design plan. Also, please consider the use of native sandstone rather than dark angular rocks in the landscape. Also is there the possibility of a bed for native sunflowers in this park? “
- Likes plan: “Please consider a berm at the bottom of the hill to slow kids down on the sled hill. Also asked why are the tree placements not more precise at this stage? Also requested input of forestry on which mature trees are viable / salvageable.
- “Beautiful view, opportunity for meditation space, please be careful in placement of trees in consideration of the view. Also please be thoughtful about the use of irrigation for as much turf is depicted in the plan.”
    - To balance with primary use for neighborhood sports (so turf/walkable groundcover needed).
- Design team encouraged to be creative with native grasses or groundcovers, which use less water.
- With GOCO matching grant “Do we have plenty of budget for this park?” Project Lead, Bryon Weber responded that the next step is to get budget pricing for this level of design
- Because of view: Is it possible to add an outdoor swing? Playful space and meditation space?
- Room for seating boulders? 37 named parks, we only get to do this every 25 years. Is it possible to budget for larger trees?

Other public comments:
Will Scherer, said they like the plan, the turf area gets used for catch and selected materials should be of the texture that you can kick a soccer ball on.

Enclave Park
This neighborhood park also features a storm basin, tandem project with Public Works is realigning storm channel which runs through it

General improvements which were voted most desirable?

1. Landscaping and horticultural improvements
2. Areas for gathering

Three recreation upgrades voted most desirable

1. Playground equipment
2. Add a shade structure
3. Improve grass field

Following themes were identified for future design:

1. Nature play
2. Community gathering

Style of playground which were voted on by community

1. Towers and bridges - tall playground structure
2. Natural wood climber

The site features:
- Open Turf
- Informal Gathering
- Soft Surface Pathway

The Design Concept is to maximize open turf area, keep trees out of the bottom of the basin area. Tiered steps, front stoop effect . Entire park will not be a completely open turf area, can surrounding slopes and contours be natural (groundcover/turf)? The concept has evolved: Plantings around dry stream bed effect vs straight concrete edge

Public comments:

- Questions and feedback from Enclave neighbor, Monty Henderson: Question about a large grate in the park (ball catcher). Answer is this is a forebay for sediment collection before it goes into cobble swale. Drain has a horizontal and vertical component, a limiting factor to maintain minimum slope and still have curvature in the drain (naturalized aesthetic). Happy about the covered patio area and playground. He believes the trees placed in the design are accurate. There was discussion about what will happen to old cottonwood trees in the park, which are home to several owls in the neighborhood. Is it possible to add a trail for through access?
- Becky Nelson, Enclave neighbor, “This park does flood often in large storms, water floods the existing play area. Asked, does the curved path need to be deeper to get water to the drainage gate? The grate for the drain on the lower right-hand corner, gets clogged.” Also asked to try to keep cottonwood trees as home to a big owl and falcon which keep local rabbit and vermin populations under control. There are many rodents due to construction - we don’t want to lose the neighborhood owl.

Council member Deb Fahey, also an Enclave neighbor, has heard, “please keep mature trees to a degree if possible, there are many birds which nest in mature trees.”
Deb loves the gathering space and shade structure. Mentioned that several neighbors gather in the park and would like to maintain the view to the east for 4th of July fireworks. Please consider more than 2 swings - a lot of swings is good. Deb suggested: 1) Would like to see a pollinator garden added to this plan. This land was originally designated as a water retention area, hailstorm and rainstorm and entire area flooded, so need to be prepared for those occurrences.

PPLAB Comments:

- There is a path in the upper right-hand corner. Could we add trees to shade this path? Could we experiment with a little forest in the non-functional turf area?
- looks good, please double check existing vs planned trees to ensure accurate coverage in the design plan.
- Could we create a retention pond? Would like to see more pollinators, could we do a meadow, seeded wildflowers in the native grasses area?
- in response to comments about a small forest or trying to plant substantially more trees here, more trees need more water - only 2 natural trees to Colorado and it will be years before they provide shade. Ellen also agrees about natural sandstone, and flat big rocks for seating and kids jumping on. Also recommends shade close to play structure.
- We have bad ozone in the front range, ask staff to let us know where we are on water consumption based on decisions on median design, reductions in other areas (so perhaps a mini-forest could be feasible for water use).
- Ginger Cross: North Open Space has a lot of trees, a miniature forest is hard to maintain/mow, part of the reason we use open grazing.
- PPLAB member: this park features lovely sloping areas, great native shrubs - habitat for native critters, suggests serviceberry, mountain mahogany plantings. Cottonwoods require a fair amount of water, but maybe not enough water for all the other trees we might be thinking of. Is there any turf replacement we can do with native grasses? Slope areas don’t get flooding.
- Question to Carter Marshall, Bryon, Abby: Is there the opportunity for input to public art in this park? Could a labyrinth be incorporated in this area? We would like one more round of public input and then to see final plans.

Next steps are Design Development Spring 2024 and construction in 2024
Bryon Weber: Will come back one more time with plans in May

Accessibility: playground equipment in this plan? Bryon Weber responded that pour in place surfacing would be an accessibility upgrade over wood chip material biggest accessibility upgrade would be to replace sidewalk

Public: Becky Nelson, Enclave resident: another comment on the play structure site, it's important to leave open turf area open.

IX. PROS Communications – Ginger Cross
Ginger gave an overview of the recent milestones for the Parks Communication
Responsible for updating the public on over 37 parks and 16 playgrounds.

Parks, recreation, open space and golf

In 2017 held a public open house. Heritage park was redesigned first. Each park has had public engagement
Yard sign with QR codes. Held park naming contest 2019

In 2019- median project was canceled and restarted, the team provided proactive and empathetic communication on trees. Provided notices to community members about glyphosate free park

Ginger's year calendar:

- 1 person for the department
- Manage 3 social media accounts
- Rec center catalog
- Golf course
- 2024 Marketing schedule
- Educate on 2C initiative
- Approval to hire another position
- Communicate with the public about upcoming mowing, plowing, etc. Make sure community knows about what city is doing

X. PPLAB Council Work Plan - Follow-up
Please review the council work plan - we will review this in April

XI. Parks Division- 2025-2030 Capital Improvement Requests - Review and Action item (to be considered)
Memo and 5-year capital improvement request in the packet in draft form. The Parks team is still refining the request, the deadline is 3/8/24.

Abby's focus is on 37 submittals under parks. Trying to program across the next 5 years.

- Discussion topics among PPLAB, discussed pros and cons of various projects on the multi-year budget.
- Discussed drainage on Enrietto and convert to synthetic turf. Board not in favor of synthetic.
- Discussed office space renovation in 2024 and 2025
- Discussed technology upgrades, GPS tracking of equipment, irrigation software and weather stations,
- Irrigation upgrades
- Replacement of existing fleet
- Critical Operations
- Which items are critical operations?
- Equipment replacements, fleet
- Council priorities - fire mitigation, economic vitality
- 8 strategic areas, sustainability, efficiencies
- Outdoor amenities
- Pickleball courts could come off given the development of pickleball courts by a local business.
- Tennis court at Centennial is a quick win between multi-use fields, aligns with council priorities
- "Tennis Court Expansion"

- Median Landscape Renovations are still fire recovery,
- Strategy to Champion Operational replacements
- Do we have usage data on converting the hockey rink to pickleball courts?

Propose review by category:

1. Efficiencies and activities which mature our operations, support staff based on GMMP Plan 18 months ago - implications
2. Core operations, equipment rotation
3. Fire recovery medians, trees and plants - line item to add more mature trees
    a. Bluegrass to waterwise plantings tied to fire recovery and mental health, meditation space
4. Sustainability, council priorities.

XII. Board Reports
PPLAB requests funding of $200 for the second annual Bee City Art Contest. Moved, seconded and unanimously approved (Patricia Rogers will email this as a formal request to Abby on 3/7/2024)

4/19 - Arbor Day will be celebrated in the Arboretum, that effort led by Chris Lichty, new tags will be in place for trees in the Arboretum.

XIII. Discussion Items for Next Meeting
In April:
Capital Update
Review Council work plan
Requested update on financing 2 C for April, Ryder, budget scenarios which are being put together for council
Outdoor Amenities subgroup
Please add approved native lists to the packet

In May
An update on Sunflower and Enclave Parks
Discuss the McCaslin entrance

XIV. Adjourn 9:38 pm

2024 Louisville City Council Work Plan – Revised 1/9/24

Number*	Program Area	Issue	Council Time Estimate	Estimated Timeline/ Quarter
High Priority				
1H	Community Design	Comprehensive Plan Update 10-Year Update: Include completion of Market/Leakage Study	4-6 Council meetings	Q1-Q4
2H	Community Design	Strategic Land Use Code Revisions as Needed to Move Forward Other Initiatives	TBD	Q1-Q4
3H	Open Space, Administration & Support Services	Open Space Management • Continued implementation of regenerative agriculture; maintenance, restoration; asset management; wildfire mitigation • Implementation of 2C ballot question	1-2 Council meetings	Q1-Q3
4H	Transportation/ Community Design/ Economic Prosperity	Transportation Topics • Future 42 plan next steps • Discuss partnership with LRC for construction of underpasses in the URA (Main St/SBR, SH 42/South, SH42/SBR) [2] • Transportation safety (including pedestrian and bicycle)	2 – 3 Council meetings	Q1 – Q4
5H	Community Development	Economic Vitality • Strategic Code Changes (land use/commercial building code) • Review policies for public private partnerships • Explore additional opportunities with urban renewal authority • Retention and expansion of existing businesses • Attraction of new businesses	As Needed	Q1-Q4
6H	Community Design	Affordable Housing • Complete Housing Study & Strategic Plan, including impact fee development • Could include Residential Rental Licenses; ADUs; Inclusionary Housing (affordable, senior, accessible); Public/private partnerships; streamlined zoning; building of new housing; transit oriented development	4-6 Council meetings	Q1-Q4

Color-coding: Pink = Highest Priority; Yellow = Medium Priority; Blue = Lower Priority; Green = Recurring/Ongoing Items.
* Numbering is not indicative of priority; is only an identifier.

2024 Louisville City Council Work Plan – Revised 1/9/24

7H	Administration & Support Services, Public Works	City Climate Change/Greenhouse Gas Reduction Initiatives: Implementation of internal strategic decarbonization plan for City facilities and operations & community decarbonization plan	3 Council meetings	Q1-Q4
8H	Administration & Support Services, PROS, Public Works	Fire Hardening/Emergency Preparedness • Fire Hardening Code Revisions • Emergency Preparedness • Cooperation and Partnership (regionally, consortium of cities, emergency notification systems) • Include all types of threats • Potential policy discussions	3-5 Council meetings	Q1-Q4
Medium Priority				
1M	Administration & Support Services	Equity, Diversity, and Inclusion –Updates from staff on the implementation of the task force recommendations and next steps.	2-3 Council meetings	Q1 - Q4
2M	Administration & Support Services	Sustainability Programs	As Needed	Q1-Q4
3M	Parks, Recreation, & Open Space	Parks, Recreation, and Open Space Departmental Master Plan	1-2 Council meetings	Q4
4M	Parks, Recreation, & Open Space	Recreation Amenities: Tennis/Pickleball Courts; Multiuse Fields	As Needed	
5M	Administration & Support Services	Minimum Wage Adjustments	2-3 Council meetings	Q1-Q4
6M	Administration & Support Services; Economic Prosperity	Main Street Closure – Consideration of 2024 closure and planning for potential 2025 closure.	3 Council Meetings	Q1-Q3

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SEPT 2023

2024 Louisville City Council Work Plan – Revised 1/9/24

7M	Administration & Support Services	Board & Commission Engagement • Q1 meetings with Advisory Boards • Q2 staff follow up on additional options for engagement • Possible joint meeting with Planning Cmsn re: Comp Plan • Possible social/thank you event	4-5 Study Sessions	Q1 - Q4
Low Priority				
1L	Administration & Support Services	Campaign Finance Rules and Limits	2 – 3 Council meetings	Q2
✓ ~~2L~~	~~Administration & Support Services~~	~~Communications/Marketing Automation Software~~ • ~~*Complete as of January 2024*~~	~~2-3 Council meetings~~	~~Q2~~
3L	Community Design	Completion of Old Town Overlay update	2 Council meetings	Q2
4L	Community Design	Update Development Impact Fees	1-2 Council meeting	Q1 – Q3
Annual/Ongoing Items				
	Administration &Support Services	2025-2026 Budget Updates/Adoption	4-6 Council meetings	Q1 – Q4
	Utilities	Water, Sewer and Storm Rates: annual update of utility rates	1 Council Meeting	Q1 - Q2
	Utilities	Solid Waste/Trash Contract Renewal	3 Council meetings	Q1-Q2
	Administration & Support Services	Comcast Franchise Renewal	2-3 Council Meetings	Q1-Q4
	Administration & Support Services	Resident Survey	2-3 Council Meetings	Q1-Q2

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SEPT 2023

2024 Louisville City Council Work Plan – Revised 1/9/24

	Administration & Support Services	Council Salary Survey: review results of annual City Council salary survey (if changes are needed)	1 Council meeting or memo	Q3
	Administration & Support Services	Airport Impact Mitigation Efforts: Participate in Rocky Mountain Metropolitan Airport Community Noise Roundtable	As Needed	Q1 – Q4
	Administration & Support Services	Evaluation of all City Council Appointees: City Manager, City Attorney, Judge and Prosecuting Attorney	2 Council meetings/Exec Session	Q3 - Q4
	Administration & Support Services	Council Work Plan Preparation: draft annual Council Work Plan with prioritized items to be addressed in upcoming year	3 Council meetings	Q1 - Q4
	Administration & Support Services	Board & Commission Interviews/Appointments: conduct interviews for boards & commissions and determine appointments	3 Council meetings	Q4
	Administration & Support Services	Organizational Strategic Plan Update	As needed	
	Other	PUDs/Developments Projects Submitted during the Year: once applicant has satisfied all submittal requirements and proposal has been reviewed by the Planning Commission, staff will present to City Council for consideration	Varies	Varies
	Other	Regional Partnerships: continue to consider shared service and/or policy opportunities with neighboring municipalities, such as: Marshall Fire Recovery; Transportation, Northwest Rail; Minimum wage; Affordable housing; Residential/Commercial building code cohort	Varies	Varies
	Other	Consent Items: staff processes small/non-controversial issues by adding to consent agenda for consideration. Council sometimes removes these items from consent agenda and discusses during regular meeting.	Varies	Varies
	Other	Municipal Code Updates: staff drafts and presents updates to Municipal Code as part of ongoing efficiency and operational improvement efforts - Commercial Energy Code	Varies	Varies

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SEPT 2023

	Other	Unanticipated Issues: each year numerous issues arise that cannot be reasonably foreseen that require Council consideration	Varies	Varies

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SEPT 2023

2024 PPLAB Work Plan

February 7, 2024

Program Area	PPLAB Recommendations
Louisville Entryway Signage- McCaslin/ US 36 interchange	Partner with Economic Development, Planning, and Parks to support entryway signage at interchange to promote Louisville
Arboretum Improvements	Partner with volunteer groups, Parks Division staff to provide enhancements to the property to include demonstration landscaping that promote habitats opportunities for pollinators and fire-wise plantings. Find locations to enhance that create mediation opportunities. Grant opportunities for overall improvements- tree replacement, landscape plantings, and identification signage.
Bench Marking GMMP	How has the GMMP been implemented, what is needed to support requests to increase maintenance and operations to our Parks and Public spaces as suggested by GMMP. Using the data to support increase in maintenance and operational needs.
Education	Find educational opportunities as outlined in PPLAB mission to support public's knowledge and understanding of the Parks Operational program. To include a continuation of the Bee City USA designation and community engagement
Playground projects- Joe Carnival, Meadows, Enclave, Sunflower	Review and support design process for playground projects- Joe Carnival, Meadows, Enclave, and Sunflower- ***started in 2023***
Collaboration with other Advisory Boards or Commissions	Collaboration opportunities to work with city advisory boards and commission to further enhance the community. OSAB, RAB, LRC- as examples. – ***started in 2023***
Parks and Open Space Sale use Tax	Sales use tax collaborate with OSAB work planning
Parks Long Range Plan	Master planning input and support at requested "step" in the process. - ***started in 2023***
Parks Signage	Prioritize park sign replacement and upgrades- ***started in 2023.***
PPLAB Bylaws Review and Update	Work with City Clerk, Staff Liaison and Advisory members to review and update PPLAB Bylaws.
Outdoor Recreation Amenities Roadmap and buildout of Operational Model	Support RAB/PPLAB subcommittee with participation, 2024 planning and identification of priorities and initial project. Build out cost estimates for priorities and provide feedback to staff.

Requests are in no order of priority and will adjust to align with City Council Work plan.

City of Louisville
COLORADO • SINCE 1878

City Council

Special Meeting Agenda

Tuesday, March 12, 2024
Library Meeting Room
951 Spruce Street
6:00 PM

Members of the public are welcome to attend remotely; however, the in-person meeting may continue even if technology issues prevent remote participation.

- *You can call in to +1 408 638 0968 or 833 548 0282 (Toll Free), Webinar ID #876 9127 0986.*
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1. CALL TO ORDER

2. RECREATION ADVISORY BOARD UPDATE AND 2024 WORK PLAN

- Presentation
- Public Comments (Please limit to three minutes each)
- Council Discussion
- Action

3. SUSTAINABILITY ADVISORY BOARD UPDATE AND 2024 WORK PLAN

- Presentation
- Public Comments (Please limit to three minutes each)
- Council Discussion
- Action

4. ADJOURN

Persons planning to attend the meeting who need sign language interpretation, translation services, assisted listening systems, Braille, taped material, or special transportation, should contact the City Clerk's Office (303.335.4536 or 303.335.4574) or ClerksOffice@LouisvilleCO.gov. A forty-eight-hour notice is requested.

Si requiere una copia en español de esta publicación o necesita un intérprete durante la reunión del Consejo, por favor llame a la Ciudad al 303.335.4536 o 303.335.4574 o email ClerksOffice@LouisvilleCO.gov.

SUBJECT: **RECREATION ADVISORY BOARD UPDATE & 2024 WORK PLAN**

DATE: **MARCH 12, 2024**

PRESENTED BY: **LISA NORGARD, RAB PRESIDENT**

1. **HIGHLIGHTS AND SUCCESSES OF THE PAST YEAR FOR THE BOARD:**
   - Creation of an Outdoor Recreation Amenities Subcommittee along with members from PPLAB.
   - Working closely as a board and with staff to provide a work plan for City Council consideration in December 2022. Highlighting RAB's priorities.
   - Completion of golf course strategic plan 2021.
   - Completion of financial feasibility study for CCGC by Z Design Group/NGF Consulting 2022.
   - Add new wind/sunscreens to the Centennial tennis courts.
   - Resurfacing & Improvements to the Mission Green tennis court.

2. **2024 BOARD WORK PLAN:**
   The 2024 RAB work plan is attached for review and discussion.

3. **ARE THERE AREAS IN WHICH THE BOARD WOULD LIKE CITY COUNCIL INPUT/FEEDBACK?**
   Are there any outdoor recreation amenities that council would like RAB to focus on in 2024?

4. **WHAT QUESTIONS DO YOU HAVE FOR THE CITY COUNCIL?**
   Council priorities with respect to recreation facilities.
   What does City Council view the role of RAB to be?
   What the next steps to determine funding for a new clubhouse?
   How will RAB give advice to City Council on an ongoing basis?

ATTACHMENT(S):
1. 2024 RAB Work Plan
2. Winter Recreation and Senior Services Catalog program catalog can be viewed here: **View Winter Catalog**

RECOMMENDATION:
Discussion and approval of annual work plan.

City of Louisville
PARKS & RECREATION

Memorandum

To: Louisville City Council

From: Recreation and Golf Advisory Board

Date: March 12, 2024

Re: 2024 City Council Work Plan

The Recreation and Golf Board's recommendations to City Council come with much thought to enhance our community amenities, to safeguard our city assets, support a healthy mind, body and a healthy community. The recommendations align with the City strategic plan. There has been much collaboration and work done to establish this input to give to city council and the board appreciates this opportunity to give input. The RAB board met as a whole to discuss goals, individual board members gave input, an Outdoor Recreation Amenities subcommittee was formed in conjunction with the Parks and Public Landscape board and input was solicited from the Youth Advisory Board. We are dedicated to the success of each of our recommendations and look forward to working with staff to achieve these goals as recommended. These recommendations also have the support and approval of the Outdoor Recreation Amenities subcommittee.

The RAB/PPLAB top four priorities are highlighted in yellow.

Outdoor Recreation	RAB/PPLAB Recommendations
Tennis Courts Support Council priorities to allocate operating funds for ongoing maintenance and repairs for our tennis courts.	**Centennial Courts** – • Renovate and reconstruct the two east courts. • Add a fifth tennis court adjacent to the existing court. This will enhance the ability to have more league play in our community.
Pickleball Courts Expedite the construction for a pickleball facility and support the master planning and identification of a location and funding for outdoor recreation amenities.	Address the community interest in this growing sport. • Consider the land between the Rec Center and police department as a location to build a dedicated outdoor pickleball facility or discuss an alternate location within the city. • Assess current usage for all outdoor recreation amenities for Community Park. • Repurpose the inline skate rink for dedicated pickleball use.

Coal Creek Golf Course Continue with the process and work that has been completed with the feasibility study and evaluate funding options for moving forward with the recommended improvements.	Continue to support the golf course's ability to serve the community. • Build a new clubhouse as the current one is in disrepair, is inadequate and energy inefficient. • Build a combined bathroom and a golfer safety shelter facility on the front nine. A location was identified in the flood rebuild between holes two and four. • Upgrade the practice facility due to increased usage, including the chipping green, putting green and punchbowl green. • Produce parking lot improvement in conjunction with a new clubhouse building. • Upgrade the Maintenance building updates & infrastructure around the building to current City standards.
Soccer/Multi-Purpose Fields Support master planning to identify land and allocation for the purpose of soccer and multi-purpose fields in the city.	Consider addressing a long time need of our community. • Identify land for the purpose of soccer and multi-purpose fields. • Consider building a facility to meet these needs. • Consider artificial turf to meet the demands for year-round use.
Sports Complex Continue to work in conjunction with our partners for the parking lot improvements and funding.	Address the need for a new parking lot at this City facility along with new bathrooms, concession stand & transitioning from grass to turf fields. • Consider improvements to the Sports Complex parking lot. • Consider transitioning from grass to turf fields. • Rebuild bathrooms. • Build a permanent concession stand.
Maintenance Projects Continue support of operational budget funds for maintenance.	**Centennial Tennis Courts** – Repair fencing surrounding the courts. **Pirate Park Tennis Courts** – Regular maintenance is needed. **Community Park** – Update basketball back boards to a higher quality regulation size and provide new nets. **Miners Field** – Install a safety net to prevent foul balls from hitting cars on HWY 42.

Requests are in no order of priority.

Planning Process (Draft) RAB/PPLB Recommendations

1. **Define and Quantify the Program Elements**
   - Tennis Courts
   - Pickleball Courts
   - Outdoor Multipurpose Fields
   - Golf Clubhouse and Course Improvements
   - Others?

2. **Determine Potential Sites**
   - Current Park Space
   - Current City-Owned Undeveloped Space
   - Land Acquisitions
     - Developer Contributions
     - Purchases
     - Joint Ventures with Other Municipalities

3. **Determine Magnitude of Costs for Improvements**
   - Planning and Design Fees
   - Administration and Management Fees
   - Site Development Costs
   - Facilities Construction Costs (Buildings, Courts, Fields)
   - Maintenance Costs

4. **Explore and Determine Financing Options**
   - Grants
   - Contributions from Developers
   - Bonding
     - Property Tax Incremental Increase
     - Sales Tax Incremental Increase
   - Joint Ventures with Other Municipalities
   - Other?

5. **Garner Community Input and Support from Constituents and Stakeholders**
   - Identify Stakeholders
   - Hold Public Workshops
   - Distribute Newsletters and Flyers
   - Others?

City of Louisville
Open Space

Recreation Advisory Board
2024 Work Plan
March 12, 2024

Board Members

Lisa Norgard – Chair, Michele Van Pelt- Vice Chair, Mary O'Brien – Secretary, Gene Kutscher, Dick Friedson, Angelique Layton & Douglas Minter

City of Louisville

Highlights and Successes for this Board

- Creation of an Outdoor Recreation Amenities Subcommittee along with members from PPLAB.
- Working closely as a board and with staff to provide a work plan for City Council consideration in December 2022. Highlighting RAB's priorities.
- Completion of golf course strategic plan 2021.
- Completion of financial feasibility study for CCGC by Z Design Group/NGF Consulting 2022.
- Add new wind/sunscreens to the Centennial tennis courts.
- Resurfacing & Improvements to the Mission Green tennis court.

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RAB's Highest Priorities

Coal Creek Golf Course-

- Build a new clubhouse as the current one is in disrepair and is inadequate.
- In accordance with the recommendations made by the ZDesign Group, build a new clubhouse at CCGC to better meet the needs of the golfing community, contribute to the future financial viability of CCGC and replace the current highly energy inefficient facility.

Pickleball Courts-

- Expedite the construction for a pickleball facility and support the master planning & identification of a location and funding for a court.
- Support the planning and development of an outdoor pickleball facility to meet the growing demand in the community.

Tennis Courts-

- Renovate and reconstruct the two east courts at the Centennial tennis courts.
- Add a fifth tennis court adjacent to the existing courts on the west side of the Centennial courts.

Soccer/Multi-purpose Fields-

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Recreational City Assets

Recreation & Senior Center
Coal Creek Golf Course
Memory Square Pool
Centennial Tennis Courts(4)
Mission Green Tennis Court
Pirate Park Tennis Court(2)
Inline Skating Rink
Sports Complex(4 fields)

Miners Baseball Park(1 ballfield)
Lawrence Enrietto Park(1ballfield)
Heritage Park(1 field, 1 basketball court)
Meadows Park Disc Golf
Cleo Mudrock Park(2 ballfields)
Memory Square Park(Bocce and Horseshoe pit)

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Recreation & Senior Center

Recreation Center

- Completed a $28.6 million dollar expansion renovation in 2019.
- Provides daily use for the community. With 392,350 paid visits in 2023.
- Extensive programming in Aquatics, Fitness & Wellness. Offering over 120 drop in fitness classes per week.
- Provides programming for many youth sports and activities.
- Provide a state licensed pre-school and summer day camp.
- Special Events

Senior Center

- Provides a gathering spot for our senior community.
- Drop-in and Organized Programming
- Offers many amenities-
  - Day Trips
  - Special Events & Programs
  - Classes and Seminars
  - Daily congregate mealsite

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Coal Creek Golf Course

- Is a nationally recognized award-winning golf course.
- Reopened in 2015 upon completion of renovation due to the 2013 flood with 18 holes of golf, 9 holes of golf and a 5-hole option.
- Completed 70% of the Audubon Certified Wildlife Sanctuary accreditation.
- Produces over 42,000 golf starts and another 5,000 individual range uses.
- Produces the largest junior programming in the state of Colorado.

Critical Recommendation-

- The current clubhouse is currently outdated for the enhanced business and at the end of its functionality per the feasibility study completed by Zdesign/NGF Consultants.
- The clubhouse is currently the most energy inefficient in the City.
- City Staff has done a phenomenal job operating within a clubhouse design that is no longer functional. It is time to move forward with a more efficient building with adequate spaces for critical golf assets (golf carts, range), for staff, and additional revenue sources that we are simply unable to explore.

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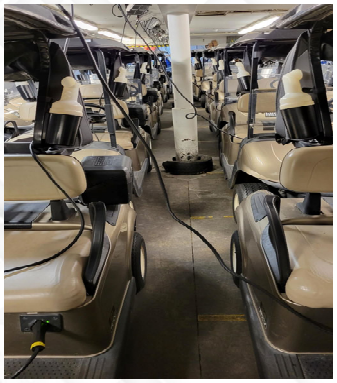
CCGC Club House

Golf Cart Storage



Facility Issues:

- Holes in ceiling due to leaking pipes.
- Open fencing in windows.
- Storing 65 carts in a space meant for 40.
- Water damage

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4/19/2023

CCGC Club House

Cart Barn Ceiling

Cart Barn Ceiling

City of Louisville

4/19/2023

CCGC Club House

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4/19/2023

CCGC Club House

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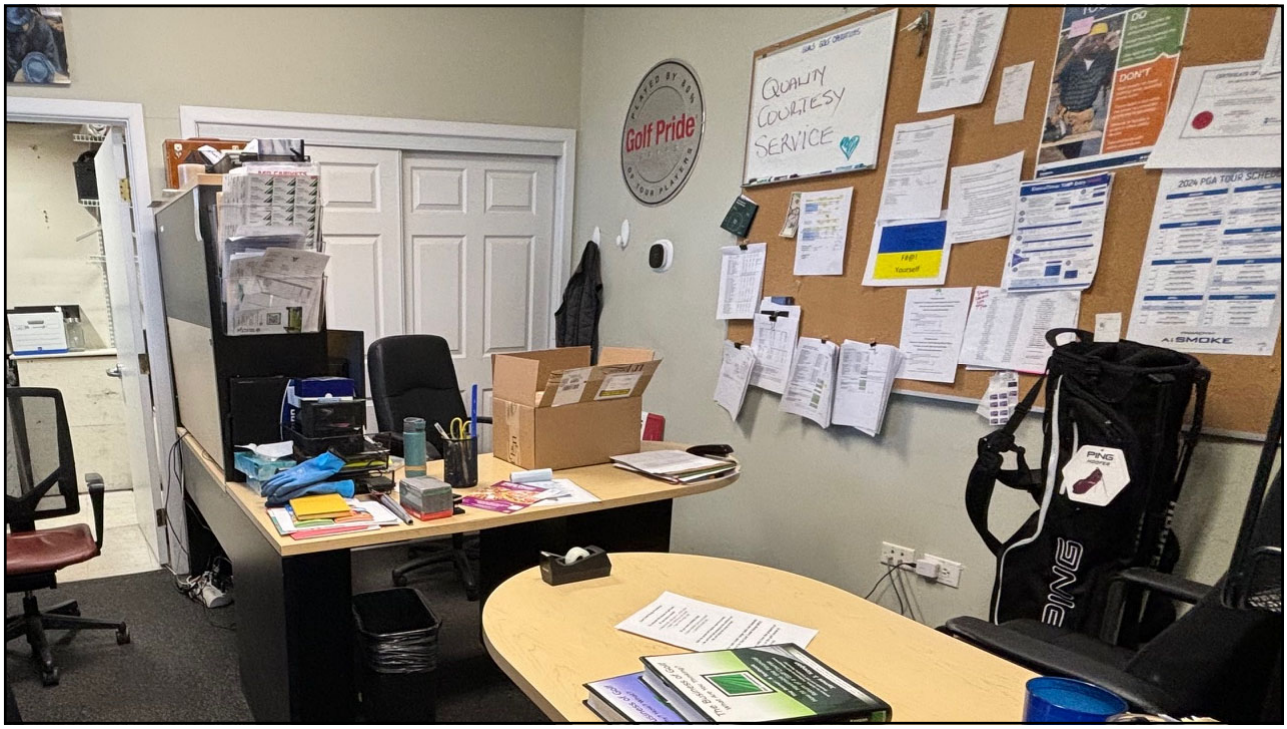
4/19/2023



Memory Square

- A new bathhouse and splash pool were constructed in 2018 as part of the $28.6 bond.
- Community Park Space with Playground and Pavilion
- 6 Lane 25-meter swimming pool, wading pool & bathhouse.
- Home to competitive swim events, fitness programming, home of the Dolphins Swim team.
- Recreational drop-in swim times for citizens.
- Facility Rental Revenue.

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Areas in Which the Board Would like City Council Input/Feedback

- Council priorities with respect to outdoor recreation amenities as identified on Council work plan?
- What does Council view the role of RAB to be?
- How will RAB give advice to Council on an ongoing basis and how will the board receive feedback?
- What are the next steps to determine funding for a new clubhouse?

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2/23/2024

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JJPS

RESEARCH ARTICLE

How social infrastructure saves lives: a quantitative analysis of Japan's 3/11 disasters

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Abstract

Observers have long debated how societies should invest resources to safeguard citizens and property, especially in the face of increasing shocks and crises. This article explores how social infrastructure – the spaces and places that help build and maintain social ties and trust, allowing societies to coordinate behavior – plays an important role in our communities, especially in mitigating and recovering from shocks. An analysis of quantitative data on more than 550 neighborhoods across the three Japanese prefectures most affected by the tsunami of 11 March 2011 shows that, controlling for relevant factors, community centers, libraries, parks, and other social infrastructure measurably and cheaply reduced mortality rates among the most vulnerable population. Investing in social infrastructure projects would, based on this data, save more lives during a natural hazard than putting the same money into standard, gray infrastructure such as seawalls. Decision makers at national, regional, and local levels should expand spending on facilities such as libraries, community centers, social businesses, and public parks to increase resilience to multiple types of shocks and to further enhance the quality of life for residents.

Key words: social infrastructure; 3/11 disasters; quantitative analysis; Japan

1. Introduction

Even though most physical infrastructure projects bring hefty price tags, we nonetheless overinvest in it while underinvesting in more cost-effective alternatives, especially *social infrastructure*.[1] Social infrastructure's definition varies widely (see Joshi and Aldrich, 2022 for an overview of the uses of the term), with some using the term indiscriminately, labeling any kind of facility that supports social services – including those in the fields of education, healthcare, housing, and transport – as social infrastructure (MOFA, 2005; Ishizuka *et al.*, 2019). Others have conflated social capital – the ties that bind us to each other (Aldrich, 2019) – and social infrastructure – the places that build those connections. This article uses the term social infrastructure more selectively, referring only to the spaces and places that create and maintain connection. Hence free and publicly funded spaces like libraries, parks, *kōminkan*, and community centers along with private social businesses such as cafés and

[1]One analysis of some 25 trillion yen in spending by the Japanese government on disaster reduction and rebuilding after the 3/11 triple disasters found that less than 5% of the money went towards 'soft infrastructure' (Ishinomaki Reconstruction Committee 2017, Interview July 25). My analysis of Boston City's spending on measures to mitigate flooding and extreme weather events reveals a nearly identical breakdown, with more than 94% of the funds going towards construction and hard infrastructure projects. Standard, publicly-funded physical infrastructure projects such as seawalls, berms, dykes, and so forth – due to their size – tend to cost far more than alternatives like social infrastructure facilities, but this article goes further to push for their cost effectiveness vis-à-vis other strategies.

Table 1. Relevant infrastructure types

Type of infrastructure	Examples	Influenced by	Benefits
Gray	Roads, bridges, ports, dams, electrical, gas, water and waste management systems	Government regulation, construction industry demand and lobbying, zoning laws, building ordinances	Standard form of critical infrastructure necessary for transportation, supply chain management, flood control, heating and cooling etc.
Green (also labeled blue/green)	Floodable parks, roof gardens, rainwater harvesting, biomimicry in streets	Progressive urban planners, engaged local citizens, urban threats	Less expensive and environmentally damaging form of managing flood risks, cooling down heat islands
Social	Community centers, libraries, walking trails, parks, cafes, dog walks, basketball courts, museums, public spaces, synagogues, mosques, churches	Citizen demand, civil society pressure, philanthropic giving	Enhances residents' capacity to interact, coordinate, develop relationships horizontally and vertically

restaurants fit in this approach (see Fraser *et al*., 2022 for details on mapping this infrastructure). This definition excludes gray infrastructure, that is, road, ports, dams, and other spaces built for transportation infrastructure, along with homes and office buildings, regardless of occasional uses of those spaces for social reasons.

Societies regularly mitigate risks – such as natural hazards, terror attacks, and crime – through physical infrastructure. To fight risks like tsunami and floods, governments construct concrete seawalls, elevate homes, and reinforce beaches with sand. To fight terrorism, they build military bases abroad (Calder, 2007; Cooley, 2008), set up hardened shelters (Elran, 2017), and build and send out drones to eliminate extremists. To fight crime, law enforcement relies on often aging and overcrowded prisons (Harding *et al*., 2020). We certainly need much of the investment in physical infrastructure given regularly failing grades assigned to it by engineers in North America (ASCE, 2021). Studies have shown that investments in physical infrastructure to mitigate water damage can reduce flood consequences (Ishiwatari and Sasaki, 2021). And much of that gray infrastructure – roads, ports, bridges – helps our society and our economy run smoothly.

While impressionistic evidence suggests that social infrastructure can alter the trajectories of shocks for residents (Klinenberg, 2018; Aldrich, 2021), few studies have sought to investigate this question using quantitative data, especially in direct comparison with the impact of mitigating physical infrastructure. This article pushes the discussion forward, using quantitative data from Miyagi, Iwate, and Fukushima prefectures in Japan to illuminate how higher levels of social infrastructure – controlling for other important factors – correlated with lower mortality rates among the most vulnerable population, that is, the elderly, during the 3/11 triple disasters. I first define three core categories of infrastructure, analyze the outcomes of a vulnerable population during Japan's 11 March 2011 events using data from more than 550 neighborhoods, and then suggest other policy arenas of challenging problems (cf. Kolko, 2012) in which social infrastructure can serve an important, low-cost role.

2. Defining infrastructure

The United States government defined 16 sectors as *critical infrastructure*, including chemical plants, commercial facilities, critical manufacturing plants, dams, the defense industrial base, emergency services, energy facilities, financial services companies, food and agriculture sector firms, government facilities, healthcare, information technology sector, nuclear reactors, materials, and waste, transportation, and water and wastewater systems (White House, 2013). I recategorize infrastructure into three types: gray, green, and social, as laid out in Table 1 below.

A current push in North America for *physical or gray infrastructure* investment has focused attention on the quality of the nation's bridges, roads, ports, and dams. The American Society of Civil Engineers (ASCE) regularly issues a report card for this type of public investment in the United States, and bridges, dams, and other built environment facilities regularly receive failing to poor grades (ASCE, 2021). At the same time, research has shown that *green infrastructure* – such as biophilic urban parks, urban forestry, rainwater harvesting and gardens, water capturing plazas, roof and community gardens, and other ways of water management – improves quality of life, air quality, and reduce heat (Currie, 2021). These newer investments have become more popular for crowded, hot, urban environments (Grabowski and McPhearson, 2021) and include projects such as biomimicry-based flood protection (Currie, 2021).

A third often overlooked type of infrastructure – *social infrastructure* – may prove more critical still. Social infrastructure provides the foundation on which civic engagement, trust, information sharing, and social ties grow. Spaces and places where people can meet, play, and build trust – including community centers, libraries, walking trails, and faith-based spaces – provide the structures on which social capital can be built and maintained. In turn, our horizontal (bonding and bridging ties) and our vertical ties (linking social capital) influence our behavior, provide information, and help overcome collective action problems. In this way, social infrastructure – the architecture, space, and shade around us – influences the ways we interact with others and therefore the direction we take as communities and societies (Jacobs, 1961; Klinenberg, 2018).

What sort of potential do social infrastructure sites have in serving as mitigating facilities against shocks?

3. Empirical investigation: social infrastructure during 3/11

I now investigate how social infrastructure can measurably alter the trajectory of vulnerable groups facing natural hazards using a hard case, namely Japan's 11 March 2011 disasters. With more than 18,400 deaths caused mostly by the 20+ m waves, this triple disaster of earthquake, tsunami, and nuclear meltdown provides an opportunity to compare, side by side, the impact of physical vs social infrastructure on a highly vulnerable population. The Japanese government has long pushed the use of traditional, gray infrastructure like seawalls and berms for mitigating the impact of tsunami and flooding (Aldrich, 2019). Here I compare the empirical consequences of seawalls of different heights on varying concentrations of social infrastructure. Using observational data from Ye and Aldrich (2019), I look at how *kōminkan*, community centers, and other social infrastructure facilities across more than 550 *machi ōaza* (neighborhoods) in the three prefectures affected most strongly by the tsunami – Fukushima, Iwate, and Miyagi – correlate with mortality rates for those over 65.

4. Determinants of mortality

Several communal, hazard-related, and geographic factors may influence how residents – especially elderly residents – encounter a shock like a tsunami. First, **geographic conditions** may influence mortality rates among those 65 years of age (Frankenberg *et al.*, 2011). Neighborhood size – especially its area – could have one of two impacts. Larger neighborhoods may provide more space for residents to find higher ground (such as higher buildings and mountaintop shrines), or they may force them to move further to get to such high ground and therefore spend more time exposed to the threat. Another geographic condition is the presence (or absence) of a seawall, and its height. Japanese engineers regularly argue that higher seawalls provide more protection from tsunami (Author interviews, August 2022).

A second type of factor that could influence the outcome involves the **hazard** itself and exposure to that hazard. Higher tsunami can more easily come further ashore, so neighborhoods hit by higher waves are likely to see higher rates of mortality. Communities that are more inland, though, may have some mitigation from the tsunami, as its strength may wane several kilometers from the beach. A third set of factors revolve around the **economic conditions** in the neighborhoods affected

Table 2. Descriptive statistics

Variable	*N*	Mean	Std. Dev.	Min	Max
Outcome of interest					
Elder mortality (Proportion)	562	4.69	7.92	0.00	80.00
Geography					
Area of the neighborhood (meters sq)	562	7,236,215	46,000,000.	3,069.82	992,000,000
Height of the seawall (m)	562	6.90	2.81	0.00	15.50
Hazard					
Height of the tsunami (m)	562	6.45	5.10	0.08	22.77
Distance to the sea (m)	562	875.77	1,397.66	0.00	10,970.00
Economic conditions					
Proportion of residents owning homes	562	0.79	0.19	0.12	1.00
University educated (percent)	562	0.07	0.05	0.00	0.29
Social infrastructure					
Social infrastructure density (normed)	562	0.001	0.00	0.00	0.05
Social capital					
Non-profit organizations (normed)	562	0.00	0.00	0.00	0.03
Residential stability (percent)	562	0.84	0.11	0.10	1.00

by the shock. While we lack direct measures of residents' wages and income, we can make some inferences based on broader conditions of housing and education. Here, we capture both the proportion of residents owning (versus renting) homes along with the percentage of those that are educated. Better educated, home owning residents may live in higher quality structures that can better survive a tsunami and may have better knowledge of forthcoming events, making them more likely to evacuate.

A fourth set of factors that may impact mortality among the elderly is **social capital**, which are the connections that bind residents to each other. Some studies have found that stronger social ties in communities reduced overall mortality through collective action and mutual aid (Aldrich and Sawada, 2014; Aldrich, 2019), but others have argued that providing aid to those in vulnerable sites may increase overall mortality (by placing the lives of friends and family in danger). Here I capture social ties through the normed density of nonprofit organizations and through the percentage of citizens still in their homes after a five year period (2005 through 2010). The final set of factors of interest revolves around **social infrastructure** – the places and spaces that help maintain and build social capital – defined here as the number of community centers, libraries, kōminkan, and parks divided by the neighborhood population.

Controlling for several relevant factors, including geography, characteristics of the hazard, social ties, and economic factors, an ordinary least squares (OLS) regression demonstrates that social infrastructure measurably correlates with reduced mortality rates. To better isolate potential causal mechanisms, I move to nearest neighbor matching (NNM) and average treatment effect (ATE) frameworks to show how communities with higher than average, normed numbers of such facilities have lower mortality rates than similar but less equipped communities.

Table 2 below lays out the data collected by Ye and Aldrich (2019) in their study of the interaction between social ties, age, and mortality rates. The outcome of interest is the proportion of elderly residents (those over the age of 65) who perished in the 3/11 tsunami. Please see Appendix Table 1 for details on the measurement and sources of these variables.

Here, I focus on the density of social infrastructure, which is captured through the number of *kōminkan* (citizens' public halls), community centers, libraries, and parks in each neighborhood divided by the population (i.e. normed for population). Table 3 below shows the estimated coefficients for the OLS regression of mortality rates among the 65 + residents on a variety of geographic, economic, social capital, and social infrastructure variables. Validation through other models – including generalized linear models (GLMs) and left censored tobit models – showed little to no difference in estimated coefficients. As expected, and across models, higher tsunami had a positive correlation with mortality, while greater distance to the sea and higher seawalls had a lower one. Most important

Table 3. Regression coefficient estimates

Regression	Estimated coefficient	Standard Error	*P* value
Area of the neighborhood (meters sq)	-1.20×10^{-8}	7.03×10^{-9}	0.089
Height of the seawall (m)	−0.2331501	0.1144487	0.042
Height of the tsunami (m)	0.355137	0.0778792	0
Distance to the sea (m)	−0.0008725	0.0002571	0.001
Proportion of residents owning homes	−1.448593	2.7733	0.602
University educated (percent)	−20.87056	9.36441	0.026
Social infrastructure density (normed)	−152.3586	77.45105	0.05
Non-profit organizations (normed)	680.7388	198.5966	0.001
Residential stability (percent)	−1.289772	4.901967	0.793
Constant	8.654676	3.789289	0.023

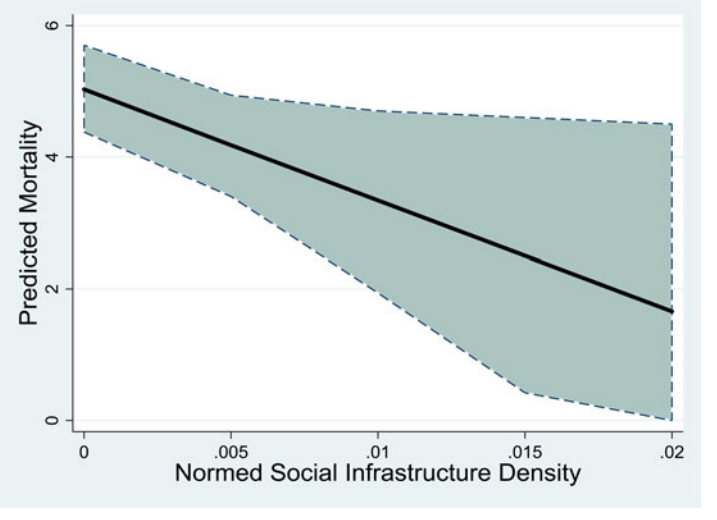

Figure 1. Predicted relationship between social infrastructure and elderly mortality rates.
Note: $N = 562$, number of simulations = 1,000, OLS model. All variables (residential stability, area, height of the seawall, height of the tsunami, distance to the sea, proportion of residents owning homes, NPOs, etc) held at their means except for the social infrastructure value, which varied between 0 and 0.02 (the interquartile range of the sample). The shaded area indicates the 95% confidence interval around the predicted value.

for this analysis is the fact that, controlling for these factors, social infrastructure was statistically significant and negatively correlated with our outcome of interest. Higher density of libraries, parks, and *kōminkan* measurably connect with lower mortality rates among the elderly.

As these data are observational and not experimental, I move from regression to an average treatment effect (ATE) approach using nearest neighbor matching to better estimate potential causality. Matching on the other covariates in the OLS regression (area, height of the seawall, height of the tsunami, distance to the sea, home ownership, etc.), the estimated ATE of a neighborhood having more than the average number of normed social infrastructure facilities on over 65 mortality rates during the 3/11 tsunami is −1.1 (standard error 0.77, *P* value of 0.1, 138 treated observations, 424 control observations. For more details on the balance of matched and unmatched observations please see Appendix 2). These data provide reasonable evidence that social infrastructure – controlling for potential cofounding factors and existing levels of social ties through NPOs and other organizations – mitigates shocks for the most vulnerable. I next go beyond hard-to-interpret statistical tables to visually illustrate the relationship between the quantities of interest using simulation and confidence intervals (King *et al.*, 2000). Figure 1 below shows the statistically significant and measurable relationship in the unmatched, original sample between social infrastructure facilities and elderly mortality rates.

Given this clear relationship, and with a few transparent assumptions about costs, it is possible to compare the life-saving benefits during shocks from investing in physical as opposed to social infrastructure (see Appendix 3 for details on these assumptions). A 1-m increase in seawall height results in a −0.23 change in elderly mortality rates, while investment in one extra site of social infrastructure per

Table 4. Application of social infrastructure in three problem areas

Problem area	Standard gray infrastructure example	Social infrastructure: prevention	Social infrastructure: response
Natural hazards (e.g. flooding)	Seawalls, berms, dikes, tetrapods, raising coastal structures, flood proofing electrical systems	Community centers as educational, trust-building, and evacuation sites	Community centers as sites for temporary housing, rebuilding planning
Crime	Jails, militarization of police equipment and vehicles, surveillance	Drug treatment centers, community policing zones, neighborhood watch sites	Job training centers
Terrorism	Drone strikes, targeted assassinations, military conflict	Schools and mosques providing vocational training and activities	Faith based place-based deradicalization programs

1,000 residents is predicted to result in a −0.15 change in that same outcome. In other words, increasing a seawall by 1 m might translate into 40 fewer elderly residents dying in a tsunami. In contrast, investment in one site of social infrastructure (e.g., library, community center, park, etc.) could save 26 elderly people. At a smaller financial cost ($1 million USD vs $5 million USD), a neighborhood adding locally appropriate social infrastructure would potentially mitigate some of the potentially fatal consequences of this kind of disaster.

5. Discussion: social Infrastructure's application to challenging policy issues

This article has quantitatively demonstrated how *kōminkan*, libraries, community centers, and other social infrastructure facilities correlated with improved survival rates for a vulnerable population during a large-scale natural hazard in Japan. Social infrastructure may serve as an efficacious and cost-effective solution when directed towards challenges which have no, simple technical solution, as seen below in Table 4. Importantly, many of these facilities have multiple uses in their neighborhoods. Community centers, such as the Ibasho project in Massaki-chō[2], for example, not only help the elderly survive shocks (as this article as shown), but they also provide places where people can build ties to other demographics and age groups, learn new skills, and continue traditional practices such *matsuri* (festivals) (Lee *et al.*, 2022). So too libraries are not just repositories for books – they can provide English language skills to new immigrants, social ties to the lonely, a cooling shelter for those without air conditioning, and a place for events such as voter registration and tax filing (Klinenberg, 2018).

In this way social infrastructure builds resilience not only to natural hazards like tsunami but also chronic stressors like loneliness and a lack of critical social interaction. In North America, for example, high quality social infrastructure – such as in demand social businesses like restaurants and cafes (which I did not test directly in this article) – may help not only boost revenue for local entrepreneurs and grow foot traffic, but can also mitigate the impact of polarization, providing spaces where people of different political parties could meet for social interaction (Fraser *et al.*, 2022). It is important to note that, like other policies, social infrastructure requires bottom-up activation to be successful; simply building a low quality, unwanted, and therefore unlikely to be used park, library, or public swimming pool will not help build resilience or mitigate shocks.

Fortunately, societies around the world have begun to experiment with community driven investments in locally appropriate social infrastructure. Trinidad and Tobago, for example, have begun creating community policing zones, school programs and NGO sites where residents can seek to deter crime and reduce violent extremism (Anever, 2015; Aldrich and Mahabir, 2022). The US State Department continues to push for nontraditional approaches to human security revolving around schools and religious institutions in the Sahel (Aldrich, 2012*b*, 2014) and even local police

[2]Ibasho is a community center built to increase social ties among the elderly evacuees who were relocated there randomly after the 3/11 disasters in Tohoku

departments in North America claim that changes to the structure of neighborhood parks and other social infrastructure have decreased crime (Riddle, 2022). Whether these infrastructure programs can scale and whether they are as or more effective than traditional gray infrastructure approaches remain open questions.

6. Conclusions

The United States, Japan, and other advanced industrial democracies have long underinvested in the obvious, tangible, and mundane built environment that sustains our economy: roads, bridges, ports, and dams. The ASCE has yet to rate the facilities in any states or localities in the U.S. with a grade above a C, and many pieces of our gray infrastructure have received failing grades (ASCE, 2021). But even the current North American administration's push for a large-scale overhaul of physical infrastructure may be missing more critical elements of our society: the invisible, often overlooked social infrastructure which helps solidify and strengthen our civic infrastructure.

Other challenges come with gray infrastructure: standard physical infrastructure projects, designed to mitigate the impact of climate change and other shocks, may increase damage to local communities (Hummel *et al.*, 2021). Shore hardening and armoring projects – using concrete breakwaters, seawalls, tetrapods, and ripraps to reduce flood impact – regularly destroy local ecosystems and reduce biodiversity (Gittman *et al.*, 2016). While we certainly need much of our gray infrastructure, we also have the tendency to underestimate its negative externalities on society.

Given its cost-effectiveness, social infrastructure has the potential to help solve major challenges across policy realms. In the field of counter terrorism, for example, facility-based vocational training and mosque-based reconciliation can decrease the likelihood of recruitment and draw away support for terror groups (Aldrich, 2012*b*, 2014). Without the ability to divert would-be terrorists from joining violent extremist groups or provide medical treatment to addicts we continue to invest in law enforcement systems that provide punishment but not justice or equity. In fighting crime, programs which support mental health through half- way homes, drug treatment centers and library-based skills improvement can reduce recidivism and crime (Steadman *et al.*, 2000; Compton *et al.*, 2008). In mitigating and responding to natural hazards like tsunami, floods, and earthquakes, investments in school-based citizen science and community centers have reduced harm and accelerated recovery (Aldrich, 2012*a*, 2019). Japan's 3/11 disasters demonstrated how $250 billion USD invested in 40 + foot tall concrete seawalls disrupted local ecosystems, angered residents, and did little to save lives, while the intangible bonds in coastal Tohoku communities helped people survive and thrive (Matanle *et al.*, 2019; Yarina, 2022).

Many questions remain, and future research should pursue four related avenues of inquiry. First, given available data on physical and social infrastructure, scholars should seek to understand why we overinvest in seawalls, berms, and other projects, and underinvest in kōminkan, community centers, libraries, and other social infrastructure. This question is sharpened by a growing body of evidence that higher investments in physical infrastructure may in fact slow or reverse population recovery after disaster (cf. Nagamatsu, 2018; Fraser *et al.*, 2021*a*, 2021*b*). It is likely that our overinvestment in physical infrastructure stems at least in part from the traditional use of cost-benefit analyses, which collect data on built structures and the costs of rebuilding but cannot capture issues of equity and social consequences (Junod *et al.*, 2021). Further, public sector spending on large scale gray infrastructure projects crowds out organic, bottom up, community-led growth (Kameda *et al.*, 2021). By harming the natural environment, disproportionately incarcerating people of color, and creating collateral damage among civilians, physical infrastructure responses often exacerbate racial inequality and further climate injustice (Sunter *et al.*, 2019).

Some answers are likely to be found in the political economy of physical infrastructure – namely that politicians and decision makers benefit from physical infrastructure spending through lobbying and political donations from firms in the industry. Further, social infrastructure investments may be less attractive to decision makers who prefer the larger-scale, more expensive investments

connected with physical infrastructure due to their visibility and rapidly visible outcomes. Because of these challenges and the path dependence around traditional investments, government agencies around the world planning new facilities and spaces to manage climate change are starting to recognize that older school, cost benefit analysis (CBA) approaches miss the nuances that more sophisticated approaches like the triple-dividend approach can uncover (Hegelson and Li, 2022).

Second, this paper has looked primarily at the role of a limited set of social infrastructure facilities – namely *kōminkan* (citizens' public halls), community centers, libraries, and parks – and did not look at the role of other free to enter, publicly support sites such as schools and shrines or private, closed sites such as social businesses (e.g. cafes, pubs, food trucks parked outdoors, barbershops, etc.). While data availability precludes analyzing the impact of these types of facilities in this article, qualitative research has indicated that one type of social infrastructure – shrines in Tohoku, Japan – may have saved the lives of coastal residents through their deliberate location on high ground (Takase *et al.*, 2012). Future research should expand the types of social infrastructure facilities under investigation.

Third, we need to begin illuminating the degree to which social infrastructure can measurably impact the resilience of communities to other global challenges, such as terrorism and crime (Compton *et al.*, 2008; Aldrich, 2012*b*, 2014; Anever, 2015). Too often decision makers continue to fall back on standard, kinetic approaches to terrorism, violent extremism and crime rather than considering alternatives which may simultaneously be less expensive and more efficacious. A fourth and final area of investigation is the degree to which quality – and not just density or quantity – of social infrastructure facilities builds resilience to shocks and stressors in neighborhoods. Little systematic data exists on whether a highly utilized, top quality park, library, or café builds collective action potential and increases intergroup connections more effectively than poorly constructed, rarely utilized sites.

We need to begin taking the architecture of our cities and towns seriously, recognizing that without common spaces, parks, pools, and defensible space we will see more and more ruptures in our social fabric (Newman, 1996). Without unity, collaboration, and communication, residents may lack trust in pronouncements from government officials, as we have seen during the ongoing COVID19 pandemic (Fraser *et al.*, 2021*a*, 2021*b*). Our social infrastructure – and the NGOs and civil society organizations that flourish because of them – should not be overlooked (Ananthanathan, 2021). Without confidence in our leaders and ties to our neighbors, finding the good life will continue to be only a dream for many (Pharr and Putnam, 2000).

Supplementary material. The supplementary material for this article can be found at https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/YA0EYS

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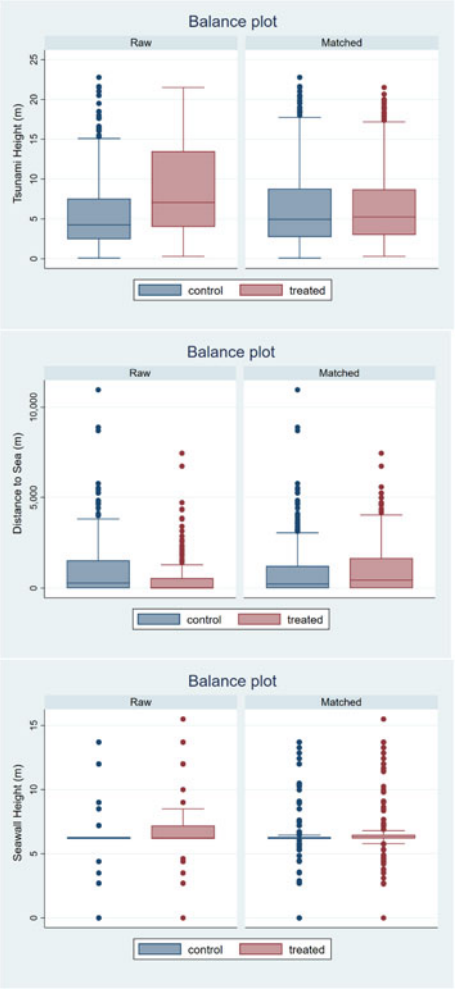
Appendix 1

Table A1. Variables, their measurements, and sources

Variable	Measured through	Data source
Elder mortality (Proportion)	Number of deaths of those over 65 divided by the population in the neighborhood	2012, Kenji TANI, Distribution of the number of deaths and the death rate on the Great East Japan Earthquake http://ktgis.net/tohoku_data/small_area_map/
Geography		
Area of the neighborhood (meters sq)	Area of the neighborhood in square meters	Statistics Bureau, Ministry of Internal Affairs and Communications (https://www.e-stat.go.jp/gis)
Height of the seawall (m)	Height of the nearest seawall to the neighborhood in meters	Ministry of Land, Infrastructure, Transport and Tourism (http://www.thr.mlit.go.jp/)
Hazard		
Height of the tsunami (m)	Height of the tsunami in meters	2011 Tohoku Earthquake Tsunami Joint Survey (TTJS) Group (http://www.coastal.jp/ttjt/index.php)
Distance to the sea (m)	Distance from the neighborhood to the Pacific ocean	Geospatial Information Authority of Japan (GSI) (http://www.gsi.go.jp/ENGLISH/)
Economic conditions		
Proportion of residents owning homes	Proportion of the neighborhood residents owning (as opposed to renting) their homes	Statistics Bureau, Ministry of Internal Affairs and Communications
University educated (proportion)	Proportion of the community with a college or university education	Statistics Bureau, Ministry of Internal Affairs and Communications (https://www.e-stat.go.jp/stat-search/files?page=1&toukei=00200521)
Social infrastructure		
Social infrastructure density (proportional)	Number of kominkan, cultural centers, and parks in the neighborhood divided by the population	National Land Numerical Information, Japan (http://nlftp.mlit.go.jp/ksj/index.html)
Social capital		
Non profit organizations (proportional)	Number of NPOs in the neighborhood divided by the population	Cabinet Office, Government of Japan (https://www.npo-homepage.go.jp/npoportal/)
Residential stability (percent)	Percentage of the population living in the same community as five years ago	Statistics Bureau, Ministry of Internal Affairs and Communications (https://www.e-stat.go.jp/stat-search/files?page=1&toukei=00200521)

Appendix 2

Balance plots of raw and matched data for selected variables



Appendix 3

Cost and mortality reduction calculations

Researchers estimated the per-meter cost of seawall construction in Tohoku at 482,877 JPY (roughly $3,500 USD) per meter (Burnett *et al*., 2016) while others argued that a 4 m high, 420 m length wall runs $10 million USD with a 20 m height wall of the same length reaching some $50 million (Kanda, 2016). Following this approach, which found a linear relationship between elevating existing walls and cost, I assume that increasing the height of a 420 m tsunami wall (sufficient to ward a neighborhood) by a meter runs roughly $5 million USD. For the cost of $5 million USD, a 1-m increase in average neighborhood seawall height is projected to decrease elderly mortality rates by 0.233.

The cost of building a single community center – a prime example of social infrastructure – runs at roughly $1 million USD (including maintenance and energy costs) (based on Aldrich and Kiyota, 2017); each neighborhood in our sample hosts an average of fewer than 2 social infrastructure sites with an average population of 1,500, that is, 0.0013 sites per capita. For each million dollars spent on more social infrastructure (i.e. one more community center or park), elder mortality rates decrease further, by −0.228 given the original 2 sites, −0.342 given 3 for $1 million more, then −0.456 (4), −0.57 (5), −0.685 (6), totaling a decrease of −0.799 (7) for a hypothetical $5 million investment.

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McCaslin Entryway Signage

Purpose - initial discussion - some categories, questions listed below - what else do PPLAB members suggest to pull together to kick off this exploration?

- At PPLAB because of "Public Landscaping" part of purpose.
- Target Audiences: Residents, Returning home fire families, Surrounding Communities, Business travelers, recreational travelers, passing through travelers (quick stop), potential business owners, potential residents, Trails/Parks/Nature enthusiasts/visitors, CU visitors (Other narrowed demographics - Boulder tourists, Estes Park tourists), Shoppers more generally (prior target audience)
- Target Audiences: familiar with Louisville (and Downtown), those unfamiliar with Louisville including Downtown, familiar with McCaslin exit and nothing else about Louisville
- Reference McCaslin consultant report (for May/June discussion)
- Do we have demographic data from consultant's report, other, traffic counts off exit headed east into Louisville?
- Request separate map of potential locations from Parks/Abby or Community Development
    - along 36 prior/after exit
    - top of exits/on overpass (not advisable?)
    - between overpass and Dillon Road (both sides of McCaslin)
    - between Dillon Road and Cherry (both sides of McCaslin)

- How much would it cost to do a study of impressions of the exit from multiple demographics?
- Types of Signs - permanent, seasonal/thematic, combo? Landmarks?
- Is Funding available from Federal, State, Commerce, Private foundations, local large businesses, business groups (public-private grants)?
    - Categories: Economic Development, Fire Recovery, Cultural, National Chamber, Foundation
- Potential outcome of PPLAB exploration: recommendation to Culture/Public Art process, to City Council, DBA, Chamber,
    - Should we request a working group or committee? Out of PPLAB or should this be sponsored by City Council (and recommended by PPLAB)

PPLAB Messaging for Median Landscape Renovations

Spring 2024 Update

The below information still applies to the median renovations, with exception that renovation areas are no longer directly impacted by fire damage. The 2024 'phase two' renovations primary objectives remain the conversion of non-functional turf, proactive removal of ash trees in poor condition and renovation of outdated/inefficient irrigation systems. Secondary objectives are for aesthetic improvements in highly traveled corridors, commercial business districts and fire adjacent areas. The exact median segments are still under determination based on available funding, staff input and public input but currently point towards finishing Via Appia near the Police Station, working on southern portions of McCaslin near Cherry and Dillon Rd east of McCaslin. Designs and pricing are still pending, but the goal is have construction by late summer and into fall.

Information below initially provided August 2023.

Links for more information:

The most comprehensive project information is available on the City of Louisville website:
https://www.louisvilleco.gov/Home/Components/News/News/6650/

A summary of the City's approach to managing the Emerald Ash Borer (EAB) can be found here:
https://www.louisvilleco.gov/local-government/government/departments/parks-recreation-and-open-space/forestry-program/emerald-ash-borer-information

The biggest question/concern we've received is: Why are mature, healthy looking trees being removed?

The short answer:

The removed trees were Ash species that were previously damaged and/or susceptible to future impacts by the Emerald Ash Borer (EAB). In addition to EAB mitigation, the Ash tree removal helped enable other project objectives including irrigation infrastructure upgrades and conversion of bluegrass turf to water wise landscaping.

The longer answer:

The removed trees were Ash species which were assessed with one (or more) of the following conditions: fire damage, poor branching structure (loss of a primary leader, significant dead limbs, etc), indication of past infection by an Ash borer and/or susceptibility to future infection by the Emerald Ash Borer (EAB).

Aside from these conditions, some otherwise healthy Ash trees were proactively removed to enable other project objectives outlined below:

1) Irrigation System Upgrades for Water and Maintenance Efficiencies
   The existing underground irrigation infrastructure is at the end of its lifecycle and can be upgraded to improve water application efficiency and reduce on-going maintenance needs. These upgrades require significant retrenching for lateral lines which would be extremely difficult (if not impossible) to perform with mature tree roots remaining intact. In addition to construction difficulty, trenching through the Critical Root Zone of established trees would likely cause detrimental health impacts to trees remaining in place.
2) Conversion of bluegrass turf to water wise landscaping
   The existing median surfaces were primarily comprised of bluegrass turf which requires significant amounts of water and frequent mowing. By removing the bluegrass and replanting with a designed blend of native grasses, significant water savings are anticipated and mowing will be less frequent. For this phase of construction (88th, Via Appia, McCaslin) up to 1 million gallons of annual water savings are projected. In addition to native grasses, the medians are being planted with drought-tolerant, native and pollinator friendly shrubs and flowers.
3) Phased Diversification of the urban tree canopy

A key strategy for long-term urban forest health is diversification of tree species. The Ash trees are being replaced with 13 different species of deciduous trees in varying sizes. It's also important to recognize that many trees in the right-of-way along both sides of the streets are also Ash species. The hope is that proactively replacing the median trees now allows time for growth prior to potential future loss of Ash trees of each side of the streets. This strategy creates a phased replacement as opposed to needing replacement an entire corridor's trees at once.

Other common questions we're hearing:

1) Q: Why Via Appia and not X, Y or Z street?
   A: This is phase one of a multi-year project. The goal is to work through all medians in town as funding allows. Additionally, City forestry is already working on other streets and right-of-ways through separate funding. Phase one (88th, Via Appia, McCaslin) was identified as a capital funded project and made the priority due to fire damage, or proximity to fire impacted areas.
2) Q: Why not treat the Ash trees against the borer with trunk injections?
   A: Forestry is treating some trees in town to extend their life. Due to City commitments to strict pesticide regulations, treatments must be made with a more expensive version of the chemicals that make treatment cost prohibitive at a city-wide scale. While chemical treatments can offer good short-term benefits, the best long-term strategy for EAB (and other emergent threats) is the diversification of tree species.
3) Q: I didn't vote for this, why didn't you ask my opinion before performing the project?
   A: The project has been in the works since 2019. Multiple rounds of designs went through the citizen-led Parks and Public Landscape Advisory Board (PPLAB) and was ultimately approved and funded by City Council in spring of 2023.

Sample E-Mail Response:
Below is a copy of our standard email response, which attempts to summarize all of the above information.

Dear <Resident>,

The tree removal is part of the City's median landscape renovation project which has multiple aesthetic and sustainability goals. These include: removal of fire damaged landscape, conversion of bluegrass turf to native grasses, introduction of xeric and pollinator friendly plantings and diversification of trees species for long term canopy health. The antiquated irrigation systems are also being upgraded to more efficient technologies. The current phase of work includes medians along 88th near Dillon, Via Appia between the skate park and Church Lane and McCaslin between Via Appia and Washington Ave.

All the trees being removed are Ash trees that were damaged (or susceptible to future damage) from the emerald ash borer. To stay ahead of the EAB, we are proactively removing of some currently healthy Ash trees for the purpose of replanting with more diverse range of tree species and to enable the other objectives of the project (turf conversion, irrigation upgrades, etc).

In terms of project process and approval, this project has been in the works since 2019 in various forms. Most recently, plans went through the City's citizen-led Parks and Public Landscape Advisory Board (PPLAB) in 2022/23 with City Council approving funding in late 2022. The final plans and approval was issued by Council in May following a competitive bidding process for the work.

If you're curious as to what the future installation will look like, you can check out the recently installed median on 88th and Dillon. Thanks for reaching out and let me know if you have follow-up questions.

City of Louisville
PARKS & RECREATION

Memorandum

To: **Parks Public Landscape Advisory Board (PPLAB)**

From: **Abby McNeal, CSFM, CPRP**

Date: **4/03/2024**

Re: **Parks Division Monthly Report**

Streetscapes/ Horticulture:

1. Bed Cut Back and preparation for late May plantings

Parks, Athletic Fields, Cemetery:

1. Staff has submitted capital improvement requests for planning 2025-2030 Capital Improvement requests.

2. Staff participated in a meeting with other departments involved in pollinator education (Bee City) ongoing discussion on collaborative opportunities and program overlap(s).

3. Staff supported snow operations and storm clean-up

4. Athletic Fields being prepared for spring play - April 1.

Forestry:

1. Full city assessment and clean-up of damaged trees from snow storm(s)

2. Ash Bore- treatment vs removal

3. Follow-up Assessment of Sunflower trees

Projects:

1. Playgrounds (Carnival/Meadows) – Council approved. Order equipment submitted for summer install.

2. Playgrounds (Sunflower/Enclave) – in design and public input. Design to come back to PPLAB in May/June

3. Playgrounds (2024) – staff completing playground assessment for next needs, focus on some of the oldest equipment (likely Memory Square, Community, Sports Complex)

4. Tennis Courts Resurfacing – pursuing bids for Mission Greens post-tension concrete overlay, also repair/resurface at Centennial

5. Irrigation Improvements – controller upgrades finalization of locations ordering in process

6. Splash pad –manifold repair completed at Community Park testing prior to activation

7. Parking Lots – collaborate with Public Works for asphalt repair (focus on Community Park and Cottonwood)

8. PROST Department Long Range Plan – delayed due to City comprehensive planning efforts, still strategizing and scoping for a RFP in Q3 2024.

Administration:

1. Finance Committee- 2C funding at April meeting
2. Capital Improvement Request 2025-2030 Timeline

January 2nd – March 29, 2024	Departments Prepare Requests for Six-Year Capital Improvement Plan
March 29, 2024	Departments Submit Requests for Six-Year Capital Improvement Plan
April 1 – May 3, 2018	Finance Consolidates and Summarizes All Requests for Six-Year Capital Improvement Plan
May 15, 2024	Finance Submits Consolidated Capital Improvement Plan Requests and Fiscal Impact Summary to City Manager
May 15 – June 9, 2024	City Manager Meets with Departments and Reviews Requests for Six-Year Capital Improvements Plan
June 10, 2024	City Manager Issues Final Recommendations on the Six-Year Capital Improvements Plan
June 21, 2024	Finance Consolidates and Summarizes City Manager's Recommendations on the Capital Improvements Plan
July 5, 2024	Finance Submits Preliminary Recommended Six-Year Capital Improvements Plan to City Manager and Departments
July 24, 2024	Council Budget Retreat to Discuss the City Manager's Recommended Six-Year Capital Improvements Plan

EVENTS:

Arbor Day hosted by City Forestry team April 19 tree planting 10:00am-2:00pm

Earth Day- Hosted by Open Space, Monday April 22 at 9:00am Aquarius Trailhead

Mulch Give Away April 6, June 1, Sept 7 8am-4pm

Historic Tree Walk June 8 at 10am

Please see City Calendar for additional events https://www.louisvilleco.gov/exploring-louisville/about-us/advanced-components/list-detail-pages/calendar-meeting-list