



Recreation on Levee Systems in Northeastern Kansas

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Research Project

OBJECTIVE:

➤ To determine which cities, along the Kansas River, chose to incorporate recreation use of their levee systems while others discouraged it.

➤ To answer this, we focused on three major concepts:

- [1] identifying the public's interest in using levees as a source of recreation
- [2] understanding potential concerns that might be related to environmental, safety and/or personal issues
- [3] investigating what financial or infrastructure stipulations would have to be met in order to satisfy the project.

Public Interests

- All 3 had similar public interests and concerns
- Differing opinions from property owners, local businesses, and residents
- Several meetings and public hearings held.
- Majority of people in favor of building while property owners nearby strongly opposed.

"We are very much in favor of this park. It is a now or never situation and we would hate it in 20 years to have missed this opportunity. Parks are so very important to our well-being whether they are well used or not." - Larry and Delia Marcellus on Linear Trail in Manhattan



Topeka

- Wooden parts constructed underneath concrete floodwalls in 50's and 60's beginning to rot, causing concern for flooding
- Major construction and maintenance repairs needed
- Topeka Flood Risk Management Plan Developed to modify levees, reducing flood damage by 67% and having a 15,427,600 economic benefit.
- Active railroad line causes a hazardous concern to recreationalists as well
- Low public interest



Concerns

- **Property Owners:**
 - concerned about the number of people drawn to the proposed trail and security
 - concerns for privacy and disruption.
- Environmental impact concern for levee itself and for surrounding wildlife and plants.
- Flooding a concern along with levee stability.
- Federal guidelines had to be met. (materials, traffic guidelines, routine inspections)
- **Safety:**
 - Multiple low water crossing points and small bridges
 - Guard rails
 - Lighting
- **Funding**
 - Where is the money coming from?

Financial Involvement

- Several grants were utilized in Lawrence
- Recreational Trail Fund Grant \$40,000, KDWP Non game funding grant)
- An original budget of \$15,000 from the City of Manhattan for Linear Trail project.
- Bond issues in both Manhattan and Lawrence
- **Initial Final Cost:**
 - Manhattan: Phase 1: \$126,452 including bridge costs / Phase 2: \$395,000
 - Lawrence: \$210,678 excluding bridge costs.
- **Projected Cost:**
 - Topeka: \$1,168,100 including operation, maintenance, repair, replacement, and rehabilitation.



Problems in Topeka

Levee Area	Stability Against the 1% Event	Key Problem Area
Waterworks	92.8%	Low factors of safety for floodwall sliding stability.
South Topeka	84.2%	High probability of underseepage failure in eastern levee sections. Low factors of safety for pump station strength and movable spill. Unacceptable probability of seal capacity failure in floodwall tieback pile foundation.
Oakland	2.9%	High probability of underseepage failure in eastern levee sections. Low factors of safety for pump station and movable spill. Low factors of safety for floodwall sliding stability.
North Topeka	14.1%	High probability of underseepage failure in two reaches of eastern levee sections. Low factors of safety for pump station spill.
Ashensdale	96.8%	No problem areas detected.

Manhattan, Kansas

- 1980 - Rock Island Railroad line stopped operation between Manhattan, Alma, and Burlingame
- Pursuit for the development of a recreation area that would incorporate both the abandoned railroad and a portion of the Kansas River levee system into a hiking/biking/walking trail
- 11 mile trail which makes a 220 degree semi-circle within the City of Manhattan
- Scenic areas without disrupting wildlife
- Community Enrichment
- March of Dimes Walk American Program
- Rails to Trail Conservancy



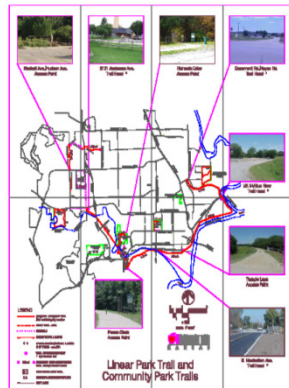
Lawrence, Kansas

- The City of Lawrence was underfunded at the time of the building and had a limited amount of trails and parks.
- Riverfront Park (Old Landfill Site) tied into trail system
- Access to Boat Ramp Availability
- Today: 10 Mile Hiking, Biking, and Multiple Use Trail System
- Highly successful multiple-use trail with picnic areas, camping, biking, etc.
- City rents out levee for bike races and runs along with several other events.
- Health, well being, and exercise benefits for community

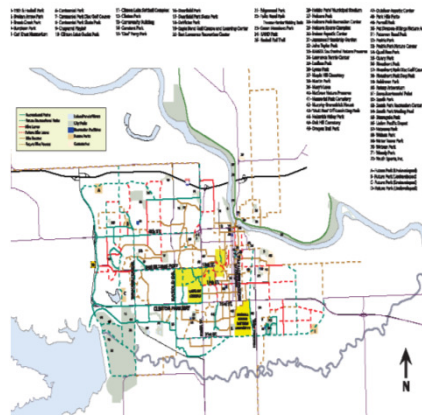


Conclusion

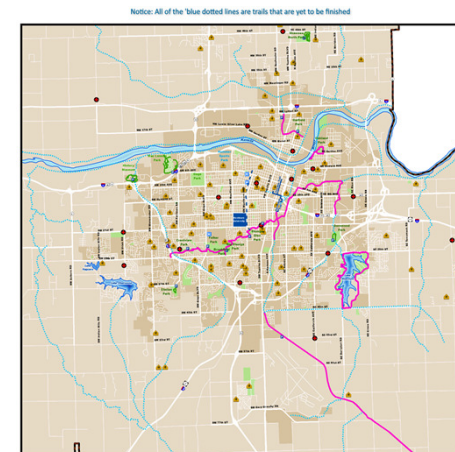
- Manhattan and Lawrence have successfully incorporated recreation areas on their levee systems
- Similar interest/concerns suggest that Manhattan and Lawrence can be used as models
- Various financing options are available
- Benefits exceed costs (economically and community enrichment)



Manhattan



Lawrence



Topeka