

Municipal Floodplain Ownership And Maintenance – How Much Can A Community Handle?

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Broken Arrow, Oklahoma Overview

City founded in the Muscogee (Creek) Nation Indian Territory in 1903 on the MKT Railway Line.

Located in the Arkansas River Watershed.

Current City area of approximately 60.10 square miles. Future area fenceline of approximately 110 square miles.

Suburban bedroom community approximately 17 miles southeast of downtown Tulsa, Oklahoma.

2018 estimated population of 112,000.

City limits within both Tulsa and Wagoner Counties.

Average Annual Rainfall of 39", area prone to severe thunderstorms and flash floods.

NFIP Member since 1977.

CRS community since 1993.

Current CRS Rating of 7.

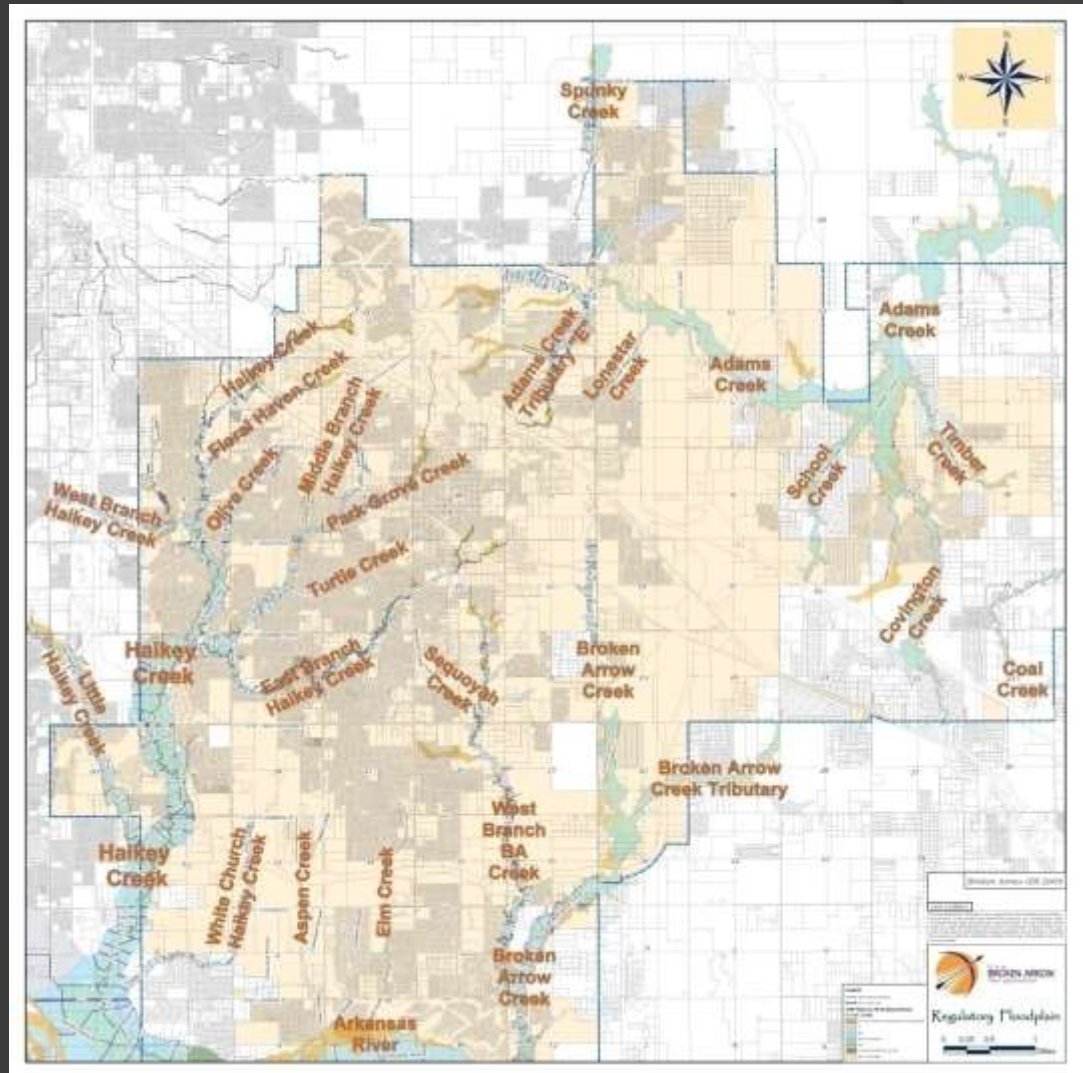
Broken Arrow Floodplain Information

6 major watersheds

All floodplains have detailed
H&H studies

230 structures within 100
year floodplain

Majority of floodplains left
in natural vegetative
condition



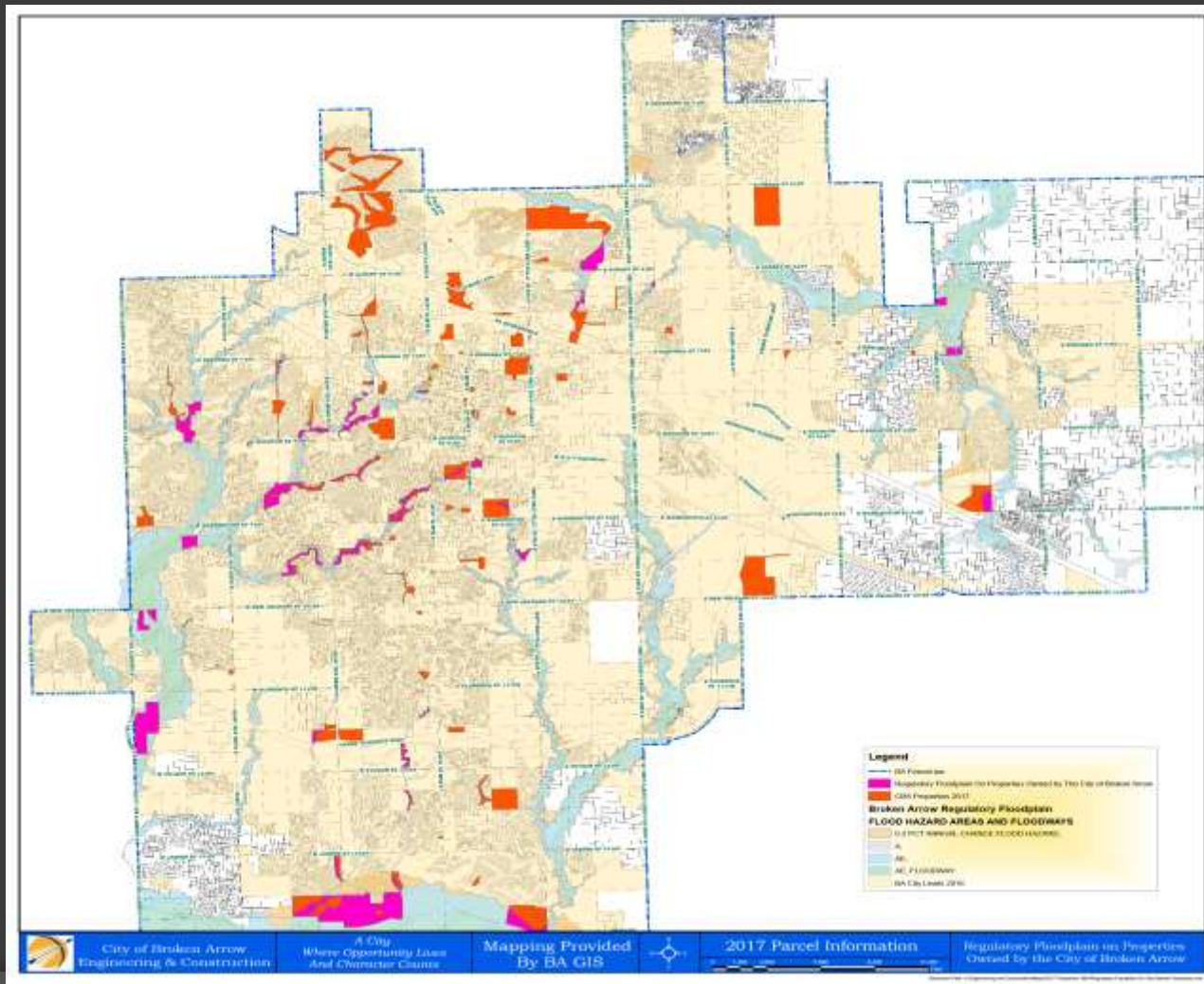
We All Know Our FEMA Floodplains, But Who Owns The Properties They Are On?

- Undeveloped Large Parcel Owners
- Farmers or Ranchers
- Prospective Realtors or Developers
- Businesses or Industries
- Absentee Owners
- Homeowners Associations
- Residential Plat Small Lot Owners
- Governmental Agencies

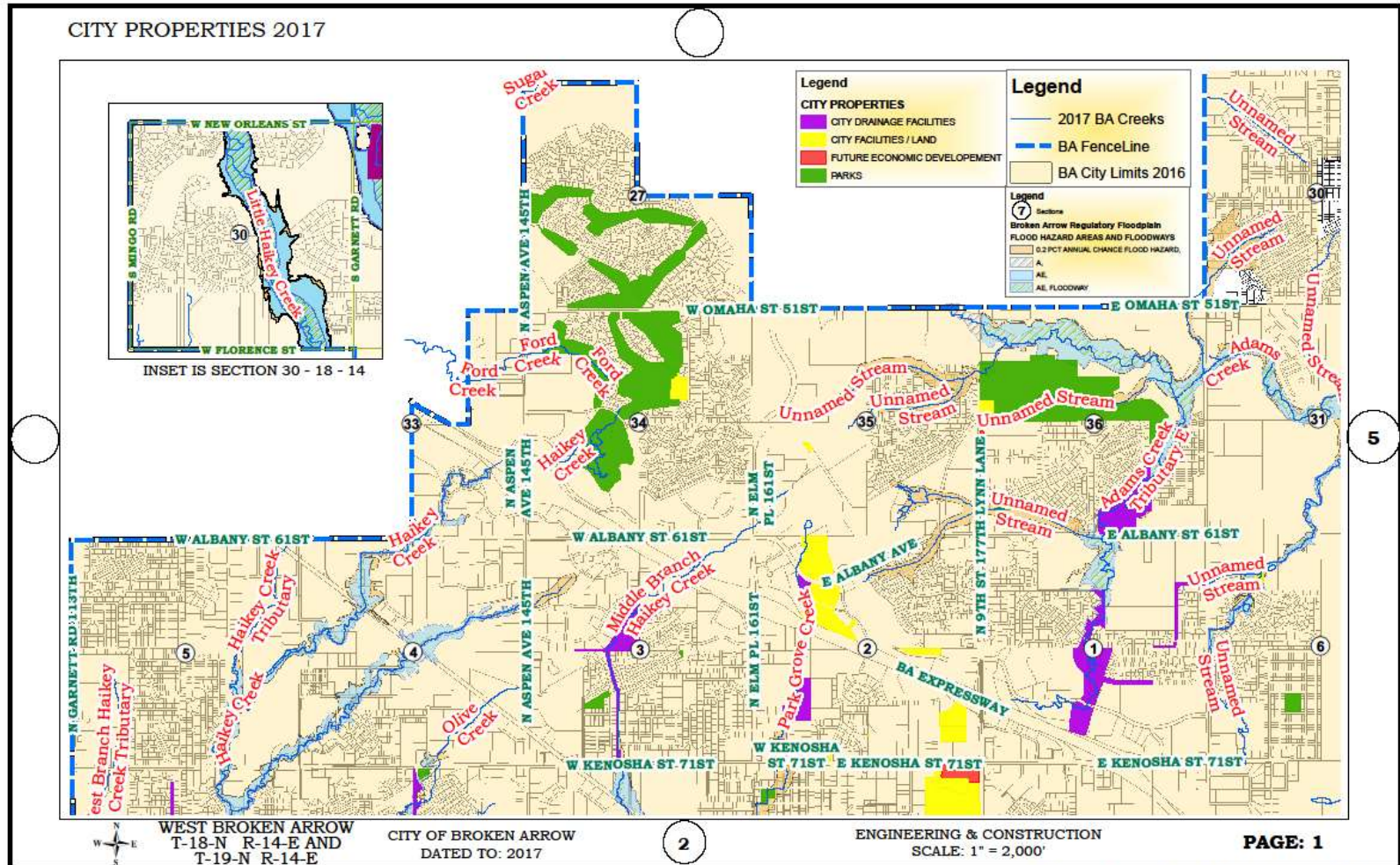
- And..... Municipalities



How Much Floodplain Does Your Community Directly Own?



Knowing how much of your city parcels are within floodplain and what type of use those tracts have determines who takes care of them and to what level.



City of Broken Arrow FEMA 100- Year Floodplain and City Owned Property Statistics

- Total Land and Stream Area Within City Limits – 60.10 Square Miles
- Total Area of FEMA 100-Year Floodplain – 5.38 Square Miles (9.0% of Total Land)
- Total Area of City Owned FEMA 100-Year Floodplain – 0.82 Square Miles (15.2% of Total)
- Total Length of FEMA 100-Year Floodplain in City Limits – 208.43 Stream Miles
- Total Length of FEMA 100-Year Floodplain on City Owned Property – 17.44 Stream Miles (8.4% of Total)

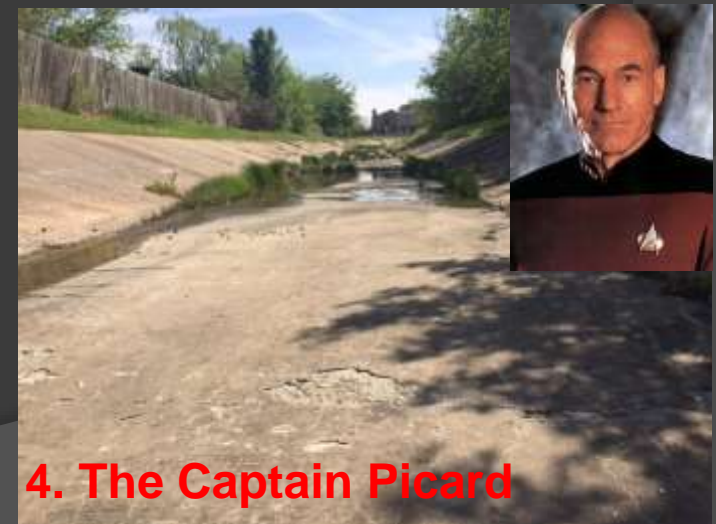
Various Types of Floodplains

- Heavily wooded and vegetated natural stream and overbanks
- Partially natural floodplain with portions of improved channel and thinned out trees, brush-hogged grass etc. in the overbank
- Manicured lawn-like floodplains (golf courses, parks etc.)
- Engineered channels (concrete or rip-rap lined, very little if any overbank area)
- Large streams or rivers



Haikey Creek At The Arkansas River – Large Stream

Main Floodplain Types Analogy (Matched With TV Or Movie Character Hair Styles)



Most Privately Owned Floodplains Are Maintained Well, But There Are Issues With Some Privately Owned Floodplain Properties

- ⦿ Inadequate access to channel
- ⦿ Debris and trash
- ⦿ Materials storage or other pollution sources
- ⦿ Creek blockages or erosion affecting nearby properties
- ⦿ Long distance or non responsive owners
- ⦿ Owners not having financial resources to adequately handle maintenance
- ⦿ Non-maintenance

Homeowners Association Owned Creek Issues

A small subdivision recently faced multiple creek maintenance issues in 2016. Eroding creek bank, failing concrete low water crossing, and a downed tree causing a trash snag. A code enforcement action prompted removal of the downed tree as a pollutant trap, but any potential repair of the eroded bank or low water crossing is at the discretion of the HOA. There are only 41 homes in the subdivision that owns an approximate 6 acre reserve area that is mostly wooded floodplain with a medium size creek flowing through it. Providing maintenance is a large challenge for a small HOA.



Absentee Owner Issues

- Out of state owners or inactive LLCs that own floodplain land are often unresponsive to maintenance or code enforcement actions necessary on their floodplain lands. Downed trees removal, beaver or debris dam removal, erosion repair, and improved channel repair are neglected.
- Floodplain properties or even improved maintenance channels are sometimes bought by the owners without them ever seeing the land.



This 30 year old concrete lined channel within a platted reserve area was purchased by an individual for a few hundred dollars in 2012 at a county land auction since taxes were not paid by the previous owners. The individual was never found when the channel had debris within it that needed removal. The debris was removed by the City and a code enforcement abatement was performed and a lien placed on the land. An endless loop of owners and non-maintenance can occur.

Should Communities Accept Floodplain Parcels If Property Owners Want to Donate Them?

- Often there are not specific community policies in place on if or how floodplain properties are to be dedicated to a city.
- Floodplain ownership by cities can affect Engineering, Stormwater, Public Works, Planning, Parks, Legal, City Management, Police, and Finance Departments.
- There are both benefits and liabilities to communities owning creeks and floodplains. We will cover some of each.

Benefits Of Community Floodplain Ownership



- Control of the creeks and overbank areas as a means to maintain them as open space in perpetuity
- Potential for pedestrian trail linkages, public parks, or public stormwater detention facilities
- Natural buffer between developments
- Direct legal access for sanitary sewers and other underground utilities already within the floodplain in small utility easements
- Improved creek access for stormwater quality sampling or stream studies
- Value of wetland or stream mitigation areas (404 permit banking)
- Potential irrigation water source (with proper OWRB permit)
- Environmental, aesthetic, and health benefits for the community
- CRS points for increased open space and restricted floodplain development

Environmental and Aesthetic Benefits

Natural floodplains provide wildlife and habitat homes and corridors, stormwater pollutant filtering, and health benefits to nearby residents.



Floodplain Trails – Provide recreation and exercise benefits for the public as well as access to the creek and floodplain for necessary maintenance. Trails provide a good way to link areas of the community for walkers and bicyclists.



Potential Areas For Regional Detention Ponds For Flood Reduction Benefits



Stormwater Sampling or Creek Water Quality Evaluation Access

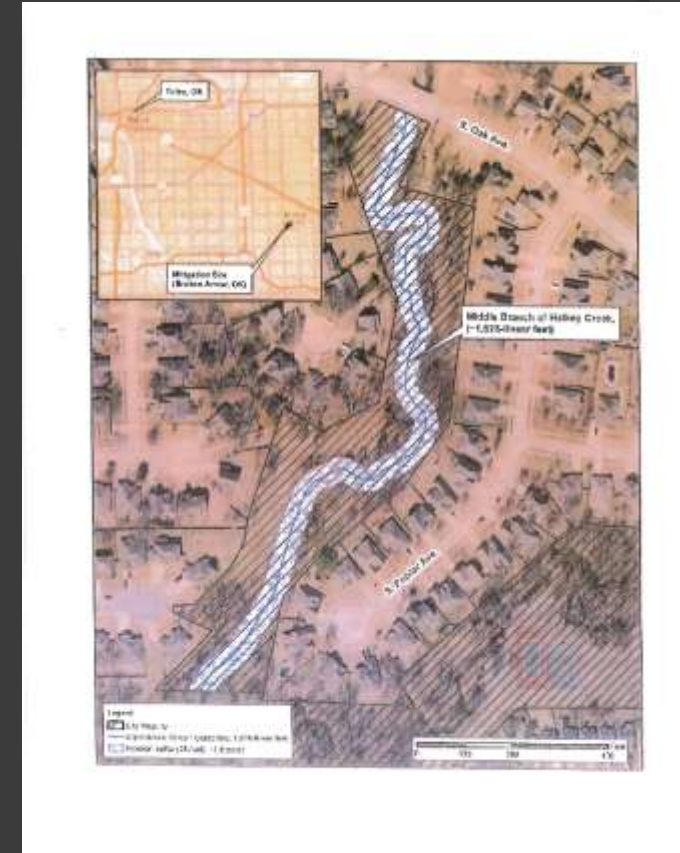


Or here?



Would you rather take water samples here?

Natural Streams and Wetlands Value



Natural Streams and Wetlands not only add benefit to the nearby surroundings but can also be deed restricted and used for offsite in-kind mitigation on other development projects that remove wetlands or natural streams. (404 Permits)

Liabilities Of Community Floodplain Ownership



- Potential for legal liability that goes with owning any open space.
- Floodplains can be tempting dumping locations. Control and clean up of illegal dumping.
- Requirement to clean up pollution or debris that deposits within the floodplain area either from heavy creek flows or from polluters.
- Dealing with erosion and sedimentation impacts.
- Required vegetation or tree maintenance that can adversely affect adjacent land owners. (leaning trees removal, invasive plants, etc.)
- Responsiveness to adjacent land owners issues of all types. Being a “good neighbor”.
- Added municipal cost and efforts to provide necessary maintenance.

Dumping

- ◉ Isolated floodplains make attractive places for polluters to dump.
- ◉ This particular dumped hot tub and truckloads of other trash was cleaned up in 2017/2018 when a new roadway project construction was started there.



Creek Erosion

- ◉ When a natural creek channel erodes onto another private property, how good of a neighbor does a municipal floodplain owner need to be to prevent damage to that offsite property?



Tree Maintenance

Leaning trees that could damage offsite property if they fall must be trimmed or removed. Downed trees that begin forming debris dams within the creek require removal if they begin to pose an increased flood threat.



Maintenance Categories By Floodplain Type

- ◉ Wooded Floodplains – Tree maintenance, downed tree removal, labor intensive channel debris removal, larger dumped items removal.
- ◉ Partially Groomed Floodplains – Lesser tree maintenance, brush-hog type mowing schedule, blowable and smaller trash removal.
- ◉ Manicured Lawn Floodplains – Frequent mowing, pesticides and fertilizer application, routine trash pickup (trash cans in park etc.), flood tolerant land use item repairs.
- ◉ Engineered Improved Channels – Structural channel repairs, graffiti\vandalism issues, minor debris removal.

Which “Natural” Floodplain Is Maintained The Best Way?



That depends on who you ask.

How much of a community’s “natural” floodplain areas should be **wooded**, **partially groomed**, or **park-like manicured**? Issues such as water quality, habitat, access, maintenance, and community aesthetic have to be balanced.

Sanitary Sewer Line and Manhole Protection



Creek Erosion Repair



Debris or Beaver Dam Removal



Improved Channel Structural Repair



Fabriform, concrete lined, rip-rap lined etc.

Many Stakeholders Literally and Figuratively Meet At The Floodplain. Floodplain Land Is Often Overlooked Land Within The Community. Knowing Who Owns What And How It Will (Or Won't) Be Maintained Is Vital To Both A Floodplain Management and Stormwater Quality Program.



Back To A Very Important Question Posed Earlier:

Should Communities Accept Floodplain Parcels If Property Owners Want to Donate Them??

- ◎ Your thoughts or opinions as floodplain professionals?
- ◎ Is it sustainable for urban and suburban communities to have the majority of creeks and floodplains privately owned?
- ◎ How far should a community go with stormwater utility fees or other funding sources if more and more floodplain is directly owned and maintained?
- ◎ Different communities will have different approaches on quantity and quality of maintenance and financing methods.

Any
Questions?

Thanks For
Attending!

