

Flood Smart Communities

Situation Analysis

To describe the flooding “problem”
our project will address

Drivers (Biophysical)

- Soil type
- Topography
- Dynamic hydrology
- Development

Causes

- More water in streams *Page 3*
- Less room for water *Page 4*
- Infrastructure and maintenance *Page 5*

Intervening Factors (Social)

- Regulation *Page 6*
- Planning *Page 7*
- Funding
- Public (awareness, communication)

Responses

- DIY Fixes
- Loss of Trust
- Quick Fixes
- Inaction *Page 14*

Flooding

Primary Effects

Environmental Damages/Loss
Page 8

Property Damage/Loss
Page 9

Human Safety/Stress
Page 10

Secondary Effects

Economic
Page 11

Regulatory
Page 12

Perceptions
Page 13

More Water
in Streams

Causes

- Impervious surfaces increasing
- Outdated data/maps/models
- Reliance on mitigation of development
- Cross connections, DIY fixes
- Dynamic hydrologic cycles

Less Room
for Water

Causes

- Both storage and flow
- Property in floodplain
- Continued permitting of floodplain properties
- Relaxed federal/state regulations
- Assumptions of protected fp/wetlands
- Channelized streams and filled/draind wetlands

Infrastructure
and
Maintenance

Causes

- Debris Blockages/lack of authority to unclog
- Undersized conveyance
- Aging stormwater infrastructure
- Lack of maintenance

Poor Regulatory
Structure

Intervening factors

- **Regulations are not sufficient** (lack of long term planning, can only meet minimum standards)
- **Not understood** (Maps, review boards, drainage areas)
- **Deliberately subverted** (Unregulated activities, government exemptions)
- **Too difficult to enforce/change** (enforcing incorrect maps, AG is largely unregulated, unfunded mandates)

Lack of
Inter-Municipal
Planning

Intervening factors

- Different municipalities operate in same watershed with different tax bases and motivations
- Lack of coordinated planning and shared resources
- Complicated multilevel (town, county, state, national) collaboration

Environmental
Damages\Loss

Primary Effects

- Debris can cause damage
- Causes ponded water where not desired
- Sediment
- Erosion of streambanks
- Adverse environmental impacts
- Non-point source runoff
- Polluted water bodies

Property
Damages\Loss

Primary Effects

- Property damage
- Direct impacts due to flooding
- Cost of lost business
- Closures – no access
- Utility interruptions
- Interruption of public services
- Debris can cause damage
- Causes ponded water where not desired
- Sediment
- Loss of farmland soils

Human
Safety/Stress

Primary Effects

- Safety
- Closures – no access
- Utility interruptions
- Cost and risk to
Emergency
Responders
- Interruption of public
services
- Disruption of life –
change in routine or
plans
- Destabilization –
uncertainty about life
- People are pissed
- Non-point source runoff
- Polluted water bodies

Economic

Secondary Effects

Municipality

- Loss of property tax – lower property values and possible decrease in future development
- Impact to town resources – time, money, equipment
 - To prepare town assets and residents for possibility of flood
 - Litigation damages
 - Administration and hard costs
 - Immediate cleanup and recovery
 - Future prevention
- Only so many people and \$ to provide support – other things suffer
- Lack of funding
 - includes “fees” drainage district tax
 - Stream maintenance

Community at Large

- Use of resources – time, money and equipment
 - Prepare for flooding
 - Cleanup, recovery
- Loss of property value (not sure if true along streams)
- Loss of income
- Costs of immediate recovery and cleanup
- Costs of future prevention
- Economic depression in neighborhoods of flooding
- Tax increases – possible Townwide drainage tax increase, All residents pay taxes
- Only so many people and money providing support – other things suffer
- Stress about finding \$ to pay expenses
- Increased costs to develop
- Developers have to address past mistakes

Regulatory

Secondary Effects

- Increased regulations
- Capacity to implement regulations and enforce them
- Polluted water bodies

Perceptions

Secondary Effects

- Do-it-yourself fixes – unpermitted changes to drainage patterns
- Lack of trust in government
- People are pissed

Responses

Responses

- DIY Fixes
- Quick/Inexpensive solutions
- Do nothing/inaction
- Lowering of property value
- Increased regulations
- Flood Smart Communities